An Address
ON THE
SURGERY OF THE AIR PASSAGES AND THORAX IN CHILDREN.

Delivered at the Royal College of Surgeons of England.

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MR. PRESIDENT AND GENTLEMEN,—The title "Surgery of the Air Passages and Thorax in Children" covers far too much ground to be attempted in these lectures; it will therefore be necessary to omit altogether some affections which the above title properly includes and to confine my remarks, as far as possible, to those conditions to which my attention has been specially attracted in the course of hospital practice. Time will not permit of any reference to the various special conditions of the nares and tonsils and to the adenoid vegetations which are so commonly met with in young subjects. This part of my subject was so fully treated in a previous lecture at the College this year that any further reference to it on my part would be superfluous. Scalds of the throat and larynx are of common occurrence amongst the young children of the poorer classes. In a table of seventy-eight cases which were admitted to St. Thomas's Hospital from 1872 to 1893 the average age is a fraction over three years. In nearly all there was some difficulty in respiration. The cause of the accident in sixty-seven cases was inhaling steam or attempting to drink boiling water from the spout of a kettle. In four instances the cause is noted as "drinking from tea-pot spout." In three cases the cause is not stated. "Drinking hot cocoa," "hot potato in mouth," "hot tallow" and "pepper forced into the throat" were given as the causes in four respective cases. The latter would more strictly come under the heading of "irritant." There were fifteen deaths and in twelve of these tracheotomy was performed. Included in this fatal list are three cases where intubation was first tried and later tracheotomy was performed. Eight cases recovered after tracheotomy and three after intubation. Neither tracheotomy nor intubation was performed unless the difficulty in respiration was serious and likely to prove fatal. Many of the cases which recovered without operation had noisy and laboured respiration together with some retraction of the lower ribs. Most were treated with steam spray and tent bed, but a few had ice applied to the throat and did equally well.

Cases which died after Tracheotomy.

Case 1.—The patient, a boy aged three years and a half, was admitted to hospital July 2nd, 1884, with scald of fauces, which had been caused by drinking hot tea. Tracheotomy was performed for urgent dyspnœa at 3 A.M. He improved at first but gradually became unconscious, and died July 4th.

Case 2. The patient, a boy aged three years and a half, was admitted to hospital on July 6th, 1886, suffering from collapse and urgent dyspnœa, having been produced by drinking from the spout of a kettle. Tracheotomy gave relief at first, but he died in six hours with a temperature of 104·6° F.

Case 3.—The patient, a boy aged one year and seven months, was admitted to hospital on Feb. 13th, 1886, for scald of the fauces. The pharynx was swollen and there was much dyspnœa. Tracheotomy was performed on the following day, but he died on the third day.

Case 4.—The patient, a boy two and a half years of age, was admitted to hospital on Feb. 21st, 1886, after drinking from the spout of a kettle. There was no dyspnœa on admission, but the child rapidly became worse and tracheotomy was performed the same night. The condition of the patient improved and the tube was removed on the 24th, but it was replaced on the 26th. It was removed again on March 2nd and replaced on the 4th. The child died on the 4th. At the post-mortem examination acute laryngitis and tracheitis were found.

Case 5.—The patient, a boy four years of age, was admitted to hospital on Feb. 23rd, 1889, after drinking from the spout of a kettle. It was found to be necessary to perform tracheotomy the next day. The child had successive attacks of convulsions on the morning of the 25th, in one of which he died. The temperature rose to 105·6° F. just before death.

Case 6.—The patient, a girl two and a half years of age, was admitted to hospital in 1889 for scald which had been caused by drinking out of the spout of a kettle. Intubation was attempted, but as it did not relieve the dyspnœa tracheotomy was performed. Artificial respiration was tried, but the child did not recover.

Case 7.—The patient, a boy two years of age, was admitted to hospital on May 31st, 1891, after attempting to drink from the spout of a kettle. Intubation was attempted, but as the tube could not readily be passed tracheotomy was substituted. On June 5th the tube was removed but had to be replaced The patient died on the following day.

Case 8.—The patient, a boy four years of age, was admitted to hospital on June 4th, 1892, after having attempted to drink from the spout of a kettle. Respiration was laboured and there was great œdema of the uvula &c. The symptoms were relieved by scarification. On Jan. 5th intubation was tried, but no relief was obtained; tracheotomy was therefore performed and gave immediate relief. Later dyspnœa returned and death occurred twenty-four hours after tracheotomy.

Case 9.—The patient, a girl two years of age, was admitted to hospital on May 11th, 1874, after drinking from the spout of a kettle. Tracheotomy was required at once. On May 16th the tube was removed. On the 19th the child died from broncho-pneumonia.

Case 10.—The patient, a boy two years of age, was admitted to hospital on March 7th, 1877, after drinking from the spout of a kettle. Tracheotomy was performed four hours after admission, and the patient died on the eleventh day.

Case 11.—The patient, a boy four years of age, had had a quantity of pepper forced into his mouth the day before his admission into hospital, causing great swelling and inability to swallow. Tracheotomy gave relief to the breathing, but twelve hours later four convulsions occurred and death followed.

Case 12.—The patient, a boy aged one year and seven months, was admitted to hospital suffering from laryngitis, being the result of drinking from the spout of a kettle. Tracheotomy was performed on the following day and death took place on the third day.

Cases which recovered after Tracheotomy.

Case 13.—The patient, a boy three and a half years of age, was admitted to hospital on April 9th, 1889, after drinking from the spout of a kettle. It was found to be necessary to perform tracheotomy at once. The tube was left out on the third day and the boy was discharged well on the fifteenth day.

Case 14.—The patient, a girl three and a half years of age, was admitted to hospital two hours after she had tried to drink from the spout of a kettle. At the time of admission the face was livid and respiration was difficult. Four hours later tracheotomy was done. The patient was at once relieved and she made a good recovery.

Case 15.—The patient, a girl aged one year and nine months, was admitted to hospital on Nov. 30th, 1878, after drinking from the spout of a kettle. Tracheotomy was performed four hours after the accident. On Dec. 21st the use of the tube was discontinued and the patient left the hospital well after a stay of thirty-seven days.

Case 16.—The patient, a boy two and a half years of age, was admitted to hospital on July 8th, 1880, after drinking from the spout of a kettle. Tracheotomy was performed soon after admission, and he recovered in ten days.

Case 17.—The patient, a boy three and a half years of age, was admitted to hospital on Feb. 27th, 1881, nine hours after drinking from the spout of a kettle. There were œdema of the glottis, lividity of the face and retraction of the lower ribs. The pulse was 130 and the respiration was forty. Tracheotomy was performed at once. On March 5th the tube was removed, and on the 20th the patient left the hospital well.

Case 18.—The patient, a boy aged one year and eleven months, was admitted to hospital on Dec. 31st; the mother stated that he had been scalded by hot tallow. The throat was swollen and dyspnœa was urgent. Tracheotomy was performed at once. The tube was left out on Jan. 5th and the patient left the hospital well on the 20th.

Case 19.—The patient, a boy three years of age, was

admitted to hospital on Jan. 22nd, 1893, after drinking from the spout of a kettle. Five hours after the accident difficulty of respiration developed. Intubation was tried, but during the introduction of the tube the child ceased to breathe; tracheotomy was therefore performed, and with artificial respiration the patient revived. On Jan. 25th the tube was changed to a rubber one, and on the 27th the use of it was discontinued. He was discharged well on Feb. 5th.

Case 20.—The patient, a boy aged three years, was admitted to hospital on March 23rd, 1893, after drinking from the spout of a kettle half an hour before. The mucous membrane of the throat was much swollen, breathing was difficult and noisy, and already retraction of the lower ribs was quite marked. Scarification and intubation only gave partial relief, and four hours later the child became cyanosed and unconscious. Tracheotomy was performed without an anæsthetic being used. After this there was no more difficulty with the breathing; but for six days the child was unable to swallow and had to be fed with a nasal tube. He left the hospital well on April 7th.

Cases which recovered after Intubation.

Case 21.—The patient, a girl aged two years and a half, was admitted to hospital on Nov. 24th, after drinking from the spout of a kettle. There were dyspnœa and retraction of the ribs four hours after the accident. Intubation and scarification were followed by rapid improvement. The tube was necessary for three days. The child left the hospital on Dec. 1st.

Case 22.—The patient, a boy aged one year and seven months, was admitted to hospital on Jan. 4th, 1892, for a scald of the larynx, which had been caused by drinking out of the spout of a kettle. Two hours after the accident the respiration was laboured; there was some stridor, the uvula was much swollen, and the throat was reddened. An intubation tube was introduced after a few hours, and this relieved the symptoms. The tube was removed at the end of twenty-four hours, and it was not necessary to use it again.

Case 23.—The patient, a boy three and a quarter years of age, was admitted to hospital on March 15th, 1893, having inhaled steam from a kettle four hours before. The respiration was rapid and laboured, the larynx was œdematous, there was some retraction of the lower ribs, and white patches were to be seen on the pharynx. Ten hours later the breathing became so difficult that intubation was performed, with immediate relief, the child sleeping easily for the rest of the night. The tube was coughed up after eight hours, and it was not needed again. The child left the hospital well on March 12th.

The average age of the cases which were fatal after tracheotomy was two years and nine months, and the average age of the successful cases was three years, so that age had little to do with the result. It will be noted that amongst the fatal cases of tracheotomy are included three in which intubation was first done and failed to relieve. Only one case which was treated by intubation and tracheotomy recovered. The three cases which were treated successfully by intubation were aged one year and seven months, two years and eight months and three years and three months respectively. Scarification of the fauces and glottis does not appear from the notes to have been much tried, and no doubt it is not at all easy to practise scarification on the inflamed and tender throats of young children without an anæsthetic. In THE LANCET of July 19th, 1890, there is a list of thirteen cases of scald of the larynx, which were treated at the Wolverhampton General Hospital. Of this number tracheotomy was performed in five cases and three of these recovered. The cause of the scald was drinking from the spout of a kettle in four cases and drinking hot tea in the other one. The average age of these five children was two years and seven months. At St. Thomas's Hospital, of the seventy-eight cases which were admitted twenty-three came to tracheotomy or intubation. Some of the cases were admitted more by way of precaution, but the majority of the cases were severely scalded and they all required careful watching. In vol. xii. of the Transactions of the Royal Medical and Chirurgical Society there is a paper on Four Fatal Cases of Scald of the Larynx, which was read before the Society on April 3rd, 1821, by Dr. Marshall Hall. All the cases were caused by drinking from the spout of a kettle. In one tracheotomy was performed, with relief of the immediate symptoms, but the child, aged two years and a half, died thirty-four hours later from exhaustion. In his remarks Dr. Hall states that at the post-mortem examination a swollen, blistered and corrugated state of the epiglottis, mouth and fauces was found and he regrets that he did not perform scarification of the epiglottis and glottis and concludes thus: "I have also conjectured that it might be possible to relieve symptoms by introducing a tube into the larynx, an expedient peculiarly adapted to a case which time would cure and in which the cause of irritation would not be materially aggravated." It is interesting to find, seventy years later, scarification and intubation successfully combined as a method of treatment. Intubation will probably take the place of tracheotomy in certain cases of œdema from scald, when the scald is confined chiefly to the glottis and the surgeon is practised in the art of passing intubation tubes and can do the operation quickly and without using force. The swelling of the parts must make the manipulation somewhat difficult and tracheotomy must be done immediately if relief is not afforded. The rapidity with which an intubation tube can, by a practised hand, be introduced, without chloroform and in emergency, without the consent of the friends, makes it absolutely necessary for every surgeon to become familiar with the manipulations. In four of the cases of scald which were treated at St. Thomas's Hospital membrane was seen on the fauces; well-formed membrane is occasionally seen in traumatic cases. Dr. Fagge[1] recorded sixteen cases of membranous inflammation of the air passages which was due to traumatic causes—viz., scalds, foreign bodies and cut-throat. At St. Thomas's Hospital a boy was admitted with sudden and urgent dyspnœa. On opening the trachea a large membranous cast was at once expelled through the wound, and in the absence of any history not unnaturally diphtheria was thought to be present. Later a portion of walnut-shell was found in the larynx and the boy recovered without any further development of membrane. In vol. xxxii. of the Transactions of the Pathological Society a case of membranous tracheitis and purulent bronchitis, which was followed by death, is reported by Dr. Carrington. The child was admitted to Guy's Hospital with croupy breathing and a history of gradual onset of symptoms; tracheotomy was done, and membrane was found in the trachea. Membrane continued to come away till death—three days later—and at the post-mortem examination a portion of nutshell was found impacted in the larynx. The membrane was such as is found in many cases of diphtheria.

One of the chief difficulties in the diagnosis of the medical and surgical affections of children is because the history has to be obtained from the friends, and it is often unreliable. On one occasion a mother brought her child to St. Thomas's Hospital with all the signs of a diphtheritic throat, yet she stated positively that the child had scalded itself by drinking from a kettle. She confessed afterwards that she had invented the story to secure the admission of the child to the hospital, as she was under the mistaken impression that cases of diphtheria were not eligible for admission. The prognosis even in severe cases of scald of the larynx is not so gloomy as many writers have stated. A few years ago non-interference was advocated, and Holmes, in his work on the "Surgical Treatment of Children's Diseases," writes as follows: "In cases of scalds of the larynx I would urge the propriety of abstaining from operation as long as possible, without going so far as to say that all the dubious cases which I have seen operated upon have died and all those not operated upon have recovered. I think that this would hardly be an exaggeration." There is no wonder, then, that with such views generally held the operation of tracheotomy was looked upon as being a sort of last chance. Tracheotomy or intubation, to be successful, must be done before the child is exhausted and the blood has become imperfectly aerated. Mr. Bryant, in the "Practice of Surgery," strongly advocates the early performance of tracheotomy in every case in which the symptoms are rapidly progressing and in which laryngeal spasm coexists. Looking through the cases which recovered without tracheotomy at St. Thomas's Hospital the most striking feature is the improvement which is shown soon after admission. When the breathing is obstructed intubation or tracheotomy ought to be done unless improvement quickly results from general treatment. Burns affecting the larynx are much more rare than scalds. The following case is a good example.

Case 24.—The patient, a boy six and a half years of age, was admitted to St. Thomas's Hospital on Jan. 3rd, 1893. He had been taken from a room which was on fire and brought directly to the hospital. He was suffering from shock, his hair was singed and his clothes were scorched; the skin of his face was slightly burned. The respiration was rapid

[1] Guy's Hospital Reports for 1877.

and the pulse was weak. On Jan. 4th there were signs of pneumonia; the temperature was 102·4° F. On Jan. 5th difficulty in breathing commenced and became worse on the next day; an intubation tube was therefore introduced, with immediate relief. On Jan. 8th the child gradually sank and died from pneumonia, but he had no further laryngeal trouble. This was clearly a most suitable case for intubation, and the child had probably a better chance by it than if tracheotomy had been performed.

Fracture or Laceration of the Larynx.

Cases of fracture or laceration of the larynx or trachea are very unusual in children. In THE LANCET of Dec. 10th, 1887, Mr. Garrard of Sheffield reports the case of a girl aged eleven who fell on a sharp-edged slate which was hanging round her neck. She was admitted an hour afterwards to Rotherham Hospital. The neck was bruised and emphysema had already extended from the neck to every part of the body, including the fingers and toes. She died a few minutes after admission. No post-mortem examination was obtained, but a distinct depression could be felt below the cricoid cartilage. At the Pathological Society on Dec. 1st, 1874, Mr. Godlee showed a rupture of the trachea from a boy aged seven which had been caused by the wheel of a cart. The rupture was associated with fracture of the third, fourth and fifth ribs. The trachea was split at the front and back immediately above the bifurcation. The child died shortly after admission; no emphysema was noted or found post mortem. In the *Edinburgh Medical Journal* of October, 1823, Liston records the case of a fine healthy boy eight years of age who fell and struck his larynx against a stone. He was taken up in a collapsed state and with lividity of the face. The temporal artery was opened and leeches were applied to the neck. When Liston saw the case three hours later the breathing was very difficult, especially inspiration. Tracheotomy was performed with marked relief, coagulated blood and mucus being evacuated. The tube was kept in for eight days and the child recovered. In the *American Journal of the Medical Sciences*, 1858, Atlee records the case of a child four years of age who fell and struck his neck against a scraper. Difficulty of breathing at once ensued, but when seen by Atlee the child was breathing quietly in his mother's arms. He suddenly began to struggle and threw his head back; his neck became at once enormously swollen and almost directly the child was dead, the emphysema extending to the finger-tips. A post-mortem examination was refused.

Compression of the trachea in the neck may be caused in children by abscess, by enlarged glands, by goitre or by a foreign body impacted in the œsophagus. Abscess in the neck, producing compression of the trachea or inflammatory œdema of the glottis, is most likely to be post-pharyngeal in position. The advantage of opening a post-pharyngeal abscess by incision in the neck and not within the mouth is now fully recognised, particularly if the abscess is dependent on vertebral disease and the discharge is likely to be continuous. If the difficulty of breathing is urgent and the dissection from the neck likely to be too prolonged tracheotomy will be advisable as a first step. Intubation would seem to be contraindicated by the possible alterations in the relations of the larynx and trachea. If, however, the abscess is small and there seems to be a difficulty in getting at it from the side of the neck a vertical incision may be made from the mouth; but care should be taken to bend the child's head quickly forward so that the pus may run out of the mouth. If radical treatment is postponed pressure symptoms may become urgent, or rapid œdema of the glottis may arise, or the abscess may burst spontaneously and death take place by suffocation, particularly if the abscess should burst whilst the child is asleep. In children under a year old these abscesses do not often depend on cervical caries, but arise from causes which produce similar abscesses elsewhere, such as inflammation around the lymphatic glands in front of the vertebræ, or they are secondary to tonsillitis, disease of the ear, or after catarrhal conditions of the posterior nares and fauces. In 204 cases, which were recorded by Bokai as occurring in the Children's Hospital at Pesth, only seven were secondary to caries of the vertebræ.

Case 25.—The patient, a boy aged six months, was admitted to St. Thomas's Hospital on Dec. 3rd suffering from difficulty in respiration and inability to swallow. A fluctuating swelling was found bulging the posterior and lateral wall of the pharynx and almost completely blocking up the fauces. The swelling had followed a sore-throat which had been noticed a week before. The third day after admission the child suddenly became worse. An incision was made along the posterior border of the left sterno-mastoid at the upper part of the neck, and the structures were separated by the finger and director down to the side of the pharynx, when, by the aid of a finger in the mouth, a director was passed into the abscess cavity and the opening was enlarged with forceps. The abscess extended across the spine to the opposite side of the neck and was only separated from the cavity of the pharynx in front by mucous membrane. No bare bone was felt. A drainage-tube was used for eight days. The incision healed and the child left the hospital well twelve days after the operation.

Case 26.—The patient, a boy aged ten months, was admitted into St. Thomas's Hospital on July 30th, 1891, suffering from dyspnœa, expiratory as well as inspiratory. There was retraction of the lower ribs. The right tonsil was enlarged and red, but the left tonsil was normal; there was no membrane. Considerable enlargement of the cervical glands was present on the right side of the neck, but no sign of any fluctuation was evident. Tracheotomy was found to be necessary at midnight. The breathing was relieved but the temperature remained high, and on Aug. 2nd the breathing again became difficult. Examination of the throat revealed considerable bulging of the pharynx (posterior wall) forwards, especially to the right side. Fluctuation could be obtained between the pharyngeal swelling and the glandular swelling in the neck. An incision was made immediately in front of the sterno-mastoid and a quantity of thick pus was evacuated. The finger was introduced into the abscess cavity and was passed right across the cervical spine; a drainage-tube was introduced. The child slept comfortably after the incision and the breathing was relieved. The child died from exhaustion the next morning. A post-mortem examination was refused.

Mr. P. D. Turner, in THE LANCET of Jan. 1st, 1887, relates a case of retro-pharyngeal abscess which caused death by pressure on the trachea. The patient, a child aged three months, was under treatment for syphilis and had so severe an attack of dyspnœa that tracheotomy was performed, but death took place a few hours later. Post mortem a large abscess was found extending from the level of the cricoid cartilage to the bifurcation of the trachea. The larynx and trachea were healthy and the vertebræ were free from disease. The abscess apparently arose from suppuration of the post-pharyngeal glands. Dysphagia in this case was entirely absent as a symptom. The following is a good example of pressure on the trachea by a foreign body in the œsophagus; it was reported in THE LANCET of Aug. 21st, 1886.

Case 27.—The patient, a boy aged twelve, was brought to University Hospital with a history that whilst at dinner he had fallen back choking. When seen by the house surgeon the boy was insensible and cyanosed, and he was making strong inspiratory efforts. Nothing could be felt at the back of the mouth, so tracheotomy was immediately performed. After he had recovered consciousness he was placed under chloroform, and on passing an œsophageal bougie some obstruction was felt at the upper part of the œsophagus. Soon afterwards the boy was sick and brought up a piece of meat one inch and a half long. He made a rapid recovery. It is pretty clear that in this case the meat was pressing on the upper part of the trachea and a bougie passed down the œsophagus would possibly have relieved the condition, but the operation of tracheotomy was undoubtedly the right course to adopt, for under such circumstances time could not be wasted, and a free opening in the trachea gave the patient a much better chance of recovering from the dangerous condition of asphyxiation.

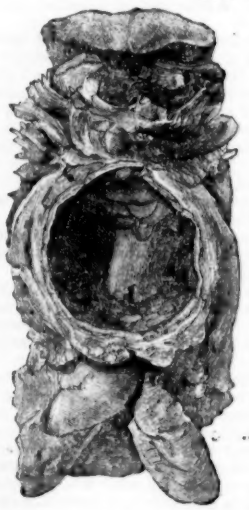
Pressure on the trachea by goitre is not common in children. Several cases of difficult breathing in connexion with congenital goitre have been recorded, the pressure symptoms and the enlargement of the gland disappearing in a few weeks. In THE LANCET of March 17th, 1888, there is an interesting letter by Mr. A. G. Webster of Huddersfield. A married woman thirty years of age had suffered from a large goitre for over sixteen years. She had four children, one daughter (her first-born) and three sons. In the case of each of the sons only—that is, her last three children—a congenital goitre had existed, increasing in importance on each occasion, so much so that the severe symptoms, difficulty of breathing and of swallowing in the last instance, led him to seek a second opinion as to some method of treatment. Considering the fact that in the two previous cases the enlargements had gradually lessened, as well as the extreme difficulty of dealing with such patients, they decided to wait and watch, with the happy

result that, just as in the other cases, the enlargement diminished, and the difficulty of breathing disappeared in about a fortnight. In three months the appearance of the neck was almost normal.

The following cases are examples of goitre in young subjects which caused difficulty in breathing by direct pressure on the trachea. The age at which operative interference was undertaken—viz., at the ages of fifteen, fifteen and sixteen respectively—is perhaps beyond the strict limit of childhood; but the goitres had been present for the periods of eight years, eight years and two years respectively, so they may be quoted as examples of such pressure in childhood.

Case 28.—The patient, a lad fifteen years of age, was admitted to St. Thomas's Hospital on Oct. 25th, 1881, with bronchocele, which he had had for eight years. For several years he had had stridor. Respiration during the week before admission had been so noisy as to keep the whole house awake. Shortly before 4 A.M. on the night of admission the boy's breathing became very difficult, and the house surgeon on arrival found the boy on the floor cyanosed and insensible. I saw the boy almost directly afterwards and opened the external jugular vein, but without giving relief to the respiration, which was very laboured. A search was, therefore, made for the trachea, which was displaced to the right and covered with a plexus of veins and the two lobes of the thyroid. The trachea was compressed laterally, so that only an edge presented in front, and when an opening was made into it the boy was almost moribund. Respiration had ceased, but with ten minutes of artificial respiration breathing was again established. A good deal of

FIG. 1.



The trachea is seen in the middle line of the cavity, with the tracheotomy opening at the lowest point in the neck

...Thymus gland.

bleeding was going on and the thyroid gland had been much disturbed in the manipulations to reach the trachea, so its enucleation was proceeded with, and this was effected without any anæsthetic. At the end of the operation the boy became conscious and asked for a drink of milk. For the first twenty-four hours his condition was very good, but later the breathing became rapid and the temperature rose to 105·2° F., and he died two days later from broncho-pneumonia. The lateral compression of the trachea is well shown in the specimen in the museum of St. Thomas's Hospital (see Fig. 1). Considering how urgent the symptoms were, it is unlikely that anything short of tracheotomy could have brought the boy round. The operation was extremely difficult and had to be done very low down, just at the level of the top of the sternum. It was thought right to remove the gland afterwards, chiefly on account of some deep bleeding, but also to radically remove the cause of obstruction. At that time I was quite ignorant of the dangers of myxœdema or of the good effects of merely removing the isthmus.

Case 29.—The patient, a lad sixteen years of age, was admitted to St. Thomas's Hospital under the care of Mr. Sydney Jones in June, 1886. He had suffered from difficulty in breathing—which was worse at night—for two years. The goitre had only been noticed during the same time. The isthmus was ligatured doubly on each side, and the intervening piece was removed. On his discharge a month later the bronchocele was greatly diminished and the difficulty in breathing had considerably lessened.

Case 30.—The patient, a girl fifteen years of age, was admitted to St. Thomas's Hospital in October, 1886, under the care of Mr. Sydney Jones. She was suffering from a goitre of eight years' history; it was slowly increasing in size, but gave rise to no difficulty in breathing except on exertion. The isthmus was removed. The trachea was pushed over by the goitre at least an inch to the right and was much compressed laterally, and the rings were softened. The patient made a good recovery.

Some Congenital Defects of the Larynx.

A specimen in the Great Ormond-street museum shows a small tense cyst arising from the crico-thymoid membrane in the median line. Before the larynx was opened the glottis appeared to be blocked up by it. It was taken from a child aged fourteen days, who was admitted into the Hospital for Sick Children, Great Ormond-street, in 1881. He had always had difficulty in breathing and had never been able to cry. Tracheotomy unfortunately was not performed on account of the tender age, and the infant died from suffocation. This case was reported by Dr. Abercrombie in vol. xxxii. of the Transactions of the Pathological Society.

An interesting case of a cyst on the laryngeal aspect of the epiglottis in a child is reported by Mr. Durham in vol. xlvii. of the Transactions of the Royal Medical and Chirurgical Society. The patient, a boy aged nine, had had a hoarse voice and had been subject to attacks of dyspnœa for two years. By the laryngoscope a cystic swelling was discovered on the laryngeal aspect of the epiglottis. This was incised and a quantity of thick glairy matter mixed with a little pus escaped and the boy made a good recovery. It is possible that this was a congenital cyst, which only gave rise to symptoms on becoming enlarged and inflamed. Hoffa[2] reports a case of congenital web in a girl aged sixteen. It resisted intra-laryngeal attempts by knife and cautery, and was divided after splitting the thyroid. A preliminary high tracheotomy was done. The web formed a curtain which was adherent to the anterior wall of the larynx just below the vocal bands. The patient made a good recovery, but there was a tendency to readhesion at the anterior commissure which required constant after dilatation.

Case 31. The patient, a girl aged sixteen, was admitted to St. Thomas's Hospital for hoarseness of the voice which had existed since birth. Between the anterior two-thirds of the vocal cords, and apparently attached to their under surface, was a thin, pinkish-white membrane. The cords themselves moved well. Dr. Semon treated the case on three or four occasions by touching the web with the galvano-cautery. Later adhesions were found to be forming between the split portions of the web, and dilating tubes were introduced at frequent intervals. She was discharged after three months without any real improvement.

It would seem from these and other recorded cases that interference is not advisable unless there is actual difficulty in breathing. Looking at the difficulty which attends the treatment of a congenital web of the fingers, and how nothing short of a careful plastic operation is of the least use, it can hardly be expected that any good can be effected in the case of laryngeal web without division of the thyroid.

(To be continued.)

[2] Berliner Klinische Wochenschrift, 1888.

MIDDLESEX HOSPITAL.—This hospital, which was closed for repairs on July 1st, will, it is hoped, be in a suitable condition for reopening towards the end of the present month. Great alterations have been effected or are in process of completion, amongst them being the reconstruction of the operation theatre, the arrangements of which had not been satisfactory. At the meeting of the general court of governors, held on the 31st ult., the secretary announced that a site had been selected at Clacton-on-Sea for a convalescent home, which appeared to meet the requirements desiderated in such an institution, the cost of which, it is estimated, will amount to about £1500. The site comprises about five acres of freehold land, which is situated very near both to the railway and the sea.

Clinical Lecture

ON

THE DIAGNOSIS AND TREATMENT OF THROMBUS OF THE LATERAL SINUS IN CONNEXION WITH EAR DISEASE.

Delivered at St. George's Hospital on Feb. 7th, 1893,

BY WILLIAM H. BENNETT, F.R.C.S. ENG.,
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GENTLEMEN,—As a general rule I confine myself in these clinical lectures to the discussion of common diseases. Occasionally, however, it is profitable to consider cases of a less ordinary character, especially when they teach lessons in diagnosis or treatment which are decisive and undeniable. I therefore propose to direct your attention to some cases of disease of the mastoid bone and thrombus of the lateral sinus which have recently been in the hospital under my care. The cases to which I especially wish to refer are two: the one illustrates very clearly the satisfactory result of energetic treatment of acute suppuration in the mastoid in the early stage—the same case unhappily later showing the disastrous results which follow upon postponing too long the radical treatment of thrombus of the lateral sinus; the second case admirably demonstrates the rapid recovery which may be brought about by early operation in blocking of the lateral sinus, a condition which if left to itself inevitably ends in death.

The following is the first case: On March 14th, 1892, there was admitted into the Belgrave Ward a lad, a messenger aged seventeen. He complained of great pain about the right side of his head. For years he had suffered from a purulent discharge from the right ear which, about a week before he came to the hospital, suddenly ceased without any reason so far as he could tell. Almost immediately he was seized with pain, radiating from the ear over the head, which continued without interruption, being sometimes a little better and sometimes a little worse, until he came under my care. The day before his admission there had been a shivering fit, during which he felt rather sick but did not actually vomit. Upon examination the mastoid bone was found to be extremely tender just behind the attachment of the pinna, where there was also some œdema. There was a little intolerance of a bright light when flashed before his eyes, but he could hardly be said to have real photophobia. The optic discs were quite natural. The right tympanic membrane was wanting and the tympanum contained some granulation tissue, from which came a little ill-smelling discharge. With a quick, hard pulse and a flushed face the temperature was 102° F. Immediately upon his admission, with a view to the relief of his pain, two leeches were placed over the tender spot. The relief obtained, although for a time perfect, did not last long, and it was plain that something more radical was required to effect any permanent good. The intolerance of light increased and the symptoms generally became worse. On the day after his admission, therefore, I cut down upon the mastoid bone and opened up its antrum by means of an ordinary gimlet and let out a few drops of pus. The relief of all the symptoms was rapid and complete, the temperature fell to normal and he left the hospital perfectly well on April 4th—that is to say, rather less than three weeks after his admission. So far, then, this was a good case—that of an acute abscess of the mastoid antrum, the patient's condition being critical, which was treated by early evacuation of the pent-up pus and ended in complete recovery so far as we knew. Unfortunately, however, the end of the case had not yet been reached, for on May 2nd the lad came back. And please note carefully the manner in which the symptoms differed from those present on his first admission. The history he now gave was this: After leaving the hospital a month previously he remained perfectly well until four days before he returned. He then suddenly became giddy and vomited. There was no pain immediately, but at the end of twelve hours or so he was seized with pain on the right side of the head which was dull and heavy in character and not acute like that from which he had suffered on the previous occasion. This was soon succeeded by a sharp lancinating pain across the forehead. The pain did not now radiate from the mastoid region as before, but resembled a series of shocks passing through his brow, where it was most concentrated. On the day after the occurrence of the giddiness there was a rigor. Upon his admission he was very ill, the temperature being 102° to 103° and the pulse, inclined to softness, was slow and laboured. The face was not flushed, but had a dusky tendency. There was no discharge from the ear nor was there any swelling or tenderness over the mastoid bone, but pressure behind the ramus of the jaw produced pain. There was marked photophobia. In addition he was suffering from acute tonsillitis, which greatly complicated the case and, indeed, in the end led to the proper treatment being postponed till too late. With the subsidence of the tonsillitis the boy improved materially in all respects and certainly the indications then seemed to be too indefinite to justify intracranial exploration. On May 15th, about a fortnight after his admission, signs of right facial paralysis showed themselves and altogether he seemed worse. He was, however, sleeping well and took nourishment freely. The pain on the right side of the head disappeared, but the acute brow pain persisted; moreover, he now complained of acute pain over the centre of the left parietal region. Then came the crucial point in the case. Just at this period there appeared a little tenderness, not over the centre of the mastoid bone itself, but behind, immediately over the situation of the mastoid foramen. This symptom made it perfectly certain that the lateral sinus was blocked. The following day it was found that both optic discs, which were previously healthy, were choked. The difficulty now was to ascertain what other lesions existed inside the skull, for the case was greatly complicated (1) by the tonsillar troubles and (2) by the pain over the left parietal region. I therefore had a consultation with my colleagues, my own inclination being to expose the right lateral sinus and clear out the clot after having ligatured and divided the internal jugular vein. The general opinion, however, was that in consequence of the anomalous nature of some of the symptoms, more especially the pain and tenderness over the left parietal region, it would be unwise to perform so serious an operation, it being more than likely that the blocking of the sinus was only one of several factors in the lad's case and that therefore the chance of the operation effecting any good was extremely small. After this there remains little to be said; the boy became gradually worse, intense drowsiness following, with an easily compressible pulse and a high temperature (102·5° to 103°). The tenderness down the side of the neck extended, and subsequently an abscess formed there. Finally the patient died suddenly.

At the post-mortem examination the following conditions were found: The whole of the scalp was natural and there was no œdema over the mastoid bone. In the right tympanum there was a little pus and in the left some granulation tissue. The right lateral sinus was blocked by a great clot which, extending backwards, occupied two-thirds of the superior longitudinal sinus. There was also purulent meningitis limited to the right side of the pons and medulla and the right lobe of the cerebellum. The optic discs were swollen and indistinct. Around the jugular sinus there was suppuration extending along the internal jugular vein into the neck; this abscess communicated with the interior of the vein. Please notice with attention the state of affairs inside the great veins. The internal jugular was full of softened thrombus (and at the level of the thyroid cartilage opened into the abscess just mentioned). This thrombus extended downwards into the right innominate vein, closing it almost entirely, but gradually diminishing below so that in the superior cava there was no clot at all.

Such are the main details of this instructive case. It is interesting to consider for a moment what would have been the result if I had ignored the anomalous symptoms (the tonsillitis and the erratic pain over the left parietal), had exposed the blocked lateral sinus and had cleared out the clot after ligature of the internal jugular vein, for you will have noted that in addition to the thrombus there existed enough suppurative meningitis to prove in itself fatal. It is, I believe, fair to infer that had I proceeded with the exploration of the sinus directly the symptoms of blocking occurred the meningeal abscess would not have followed, for so far as I know the meningitis is always secondary to the thrombus when the two conditions are found to co-exist; moreover, had the abscess been present it could have been treated with a reasonable hope of saving the patient.

certainly in the future I shall in all these cases, if the sinus is clearly blocked, ignore anomalous symptoms and proceed at once to clear out the clot.

Our second case is the following, and it is important on two accounts: firstly, because it presents perfectly uncomplicated and, therefore, unmistakable symptoms of blocking of the lateral sinus as distinct from acute disease of the mastoid bone; and, secondly, by reason of the ideal result which followed the treatment adopted.

The patient, eighteen years of age, was admitted into the Grosvenor Ward on Jan. 13th, 1893. For years he had suffered occasionally from a discharge from the right ear. A month before his admission a little pain occurred in the ear; the discharge at the same time increased slightly in amount and persisted till two days before he came under treatment here, when it stopped suddenly. Almost immediately upon the cessation of the discharge he was attacked by a dull pain, which was at first concentrated about the right ear and side of the head. Very soon this pain became acute and leaving the mastoid region altogether seemed to fix itself across the forehead, as though, he said, someone held "a hot iron inside his head and was pushing it against the bone." There had been a well-marked rigor with vomiting at the time of the onset of the heavy pain about the ear. Upon admission the man's face was somewnat dusky; he was drowsy but could easily be aroused. The pulse was rather slow (64) and very compressible. The temperature was 102° F. There was slight intolerance of light and the optic discs were natural. There was a little pus in the right auditory meatus which came from a large perforation in the membrana tympani. There was no tenderness over the central part of the mastoid bone even upon very hard pressure; but on pressing with the finger ever so lightly further back over the situation of the mastoid foramen the patient flinched directly; and a day later when the drowsiness was much increased a gentle touch on this spot immediately caused pain. As I have already stated, this last symptom may be regarded as pathognomonic of blocking of the lateral sinus, for the following reasons: in the ordinary acute suppuration in the mastoid bone the pus is shut up in the mastoid antrum, and possibly some of the mastoid cells as well, the consequence of which is that tenderness, with or without œdema, is always present over the central part of the bone; in simple blocking of the lateral sinus, independently of acute suppurative disease, there is no marked tenderness, swelling or œdema over the situation just mentioned, because the sinus is so far removed from the superficial parts here that no pressure can be brought to bear upon it. The tenderness, on the contrary, is over the situation of the mastoid foramen—i e, either at the extreme posterior part of the mastoid, or perhaps even over the posterior inferior angle of the parietal bone; pressure over this area produces pain because the mastoid vein leading straight into the lateral sinus is blocked also in these cases, and hence is tender, as all recently blocked veins are.[1] Although fully convinced of the nature of the case I did not at once proceed to operate, because I am averse to operations immediately upon a patient's admission into hospital, unless postponement for a short time is entirely unjustifiable; a much better idea can be formed of the patient's general state a few hours later—a very important matter. To begin with therefore, in case any of the pain chanced to be due to disease of the mastoid itself as distinct from the condition of the lateral sinus, I merely had a couple of leeches applied. It is a clinical fact of much use sometimes, not only in the matter of treatment but also in doubtful cases for diagnostic purposes, that leeches applied behind the ear invariably afford temporary relief from pain in acute disease of the mastoid, whilst in thrombus of the lateral sinus they have no effect whatever. As was anticipated in this case no benefit, temporary or otherwise, was derived from the leeching and the patient grew worse, the tenderness behind the ramus of the jaw extending, the pulse becoming feeble and the drowsiness more marked. A day later I cut down and opened up the mastoid antrum, clearing out a little caseous material, the existence of which (instead of pus) showing further that all the present symptoms were immediately due to other causes. I then exposed the lateral sinus for a distance of an inch or so and, as we expected, found it blocked, for the natural pulsation was wanting and it felt harder to the touch than natural; moreover, a hypodermic syringe, after the needle had been introduced into it, failed to withdraw more than a drop or two of blood. The internal jugular vein, having then been exposed at about the level of the omo-hyoid muscle, was divided between two ligatures of chromic catgut. The exposed portion of the sinus was then laid open and the clot turned out with the scoop end of a director. Severe hæmorrhage of course occurred for a moment, but was easily controlled with the finger. The sinus was then stuffed with a pledget of gauze and the soft parts brought together. The result was all that could be desired; within twelve hours of the operation the temperature had fallen from 104° to normal, the drowsiness had disappeared, and beyond the soreness of the wound there was no pain of any kind. Uninterrupted recovery followed and the patient is now perfectly well. The wound is soundly healed, the disease in the middle ear appears quiescent, and there is no discharge from the meatus. You will see therefore that the operation undoubtedly saved this lad's life, for patients suffering from this affection almost invariably die, if not rescued by some such means as were adopted here, from septic pneumonia, suppurative meningitis, or some other pyæmic condition. The only method of avoiding these conditions is to isolate as early as possible the septic clot in the sinus from the general circulation and then to clear the sinus of the thrombus in the manner indicated in describing this case. There is every reason to hope that the recovery here may be permanent, as the bone disease appears to have completely settled down. This is not always so in these cases, for the disease in the bone about the ear may continue, under which circumstance the patient can hardly be considered perfectly safe from certain inflammatory conditions—e.g., meningitis. Whatever may happen after an operation of this kind, one thing at least is certain—viz., that the patient's state subsequently must be better than before, since the great risk of pyæmia has been removed by the obliteration of the lateral sinus in the immediate region of the disease.

The early diagnosis of blocking of the lateral sinus in cases of ear disease is a matter of the utmost importance in consequence of the urgent necessity for immediate and energetic treatment if the life of the patient is to be saved. I have

Table showing the Principal Points in the Differential Diagnosis between Acute Suppuration in the Mastoid and Septic Clot in the Lateral Sinus.

Symptoms.	Acute suppuration in the mastoid.	Septic clot in the lateral sinus.
Disease of the middle ear.	Present.	Present.
Purulent otorrhœa.	Generally ceases suddenly at onset, but may soon reappear.	Generally ceases altogether.
Tenderness.	Most marked over the centre of the mastoid immediately behind the pinna.	Limited to small area over the region of the mastoid foramen ("post-mastoid" tenderness), probably extending down behind the ramus of the jaw over the internal jugular vein.
Swelling.	Over the whole mastoid.	Absent over the mastoid; present in greater or less degree over the region of the mastoid foramen.
Œdema.	Do.	Do.
Rigors.	Present.	Present; generally associated with vomiting.
Pulse.	Quick and rather hard	Slowish (from 60 to 68 or 70); easily compressible.
Temperature.	Great morning and evening fluctuation (temperature of hectic).	Uniformly high (temperature of pyæmia).
Photophobia.	May or may not be present.	Present at first; soon succeeded by indifference to light.
Choked optic disc.	Absent.	May or may not be present.
Mental condition.	Drowsy; inclined to irritability.	Drowsy; very dull; rapidly passing into coma.
Aspect of face.	Flushed or pale.	Dusky.

[1] The fact that the mastoid vein is absent in about from 10 to 15 per cent. of ordinary subjects does not invalidate this symptom, as in the absence of the mastoid vein itself there are invariably two or more smaller vessels which pass either through the suture in the immediate neighbourhood or through special bony canals; under all circumstances the finger tip placed over the situation of the mastoid foramen will elicit the characteristic "post-mastoid" tenderness in these cases of thrombus of the sinus.

therefore drawn up the accompanying table of the symptoms (1) of acute suppuration in the mastoid bone and (2) of septic thrombus of the lateral sinus. You will, I think, do well to compare the two sets of symptoms carefully, for it is hardly needful to point out that if the sinus is blocked no amount of opening up the mastoid alone will save the patient's life; and, on the other hand, if no blocking of the sinus exists an operation for its exploration is not only unnecessary but may do serious harm.

The table in the main speaks sufficiently for itself. I wish, however, to say a few words concerning two of the symptoms mentioned—viz., the tenderness over the region of the mastoid foramen and the "choked" optic discs. The tenderness over the situation of the mastoid foramen may, as I have already pointed out, be regarded as certain evidence in these cases of blocking of the lateral sinus for the reasons which I have mentioned, excepting in infants and very young children. In such patients it is, of course, impossible to localise the tenderness sufficiently to be of value; moreover, in these very young patients—i.e., before the age of five, or perhaps six—disease of the masto'd is not infrequently associated with subdural abscess, which makes its way to the scalp by coming out of the skull through the unossified masto-parietal suture, in which case post-mastoid tenderness occurs independently of blocking of the sinus, which seems less common in ear disease in these very young subjects than in older patients. The value of a knowledge of the importance of this symptom (post-mastoid tenderness) in blocked sinus is well shown by the following case.

On Jan. 23rd, 1893, I was asked to see a girl about fifteen years of age, of whose illness the following history was given. For years she had suffered from time to time from a purulent discharge from the right ear, which had not caused any pain till a week before I saw her, when, after an acute attack of earache, the discharge became more profuse than usual. Two days later, in consequence of the breaking down of a cab, she had to walk about half a mile in the snow at night. On the following day she felt cold and shivered and was almost immediately seized with acute frontal pain and intolerance of light. She was sent to bed and after a severe shivering attack perspired profusely. Some drowsiness followed and continued till I saw her, when her condition was as follows. She was lying in bed in a condition of semi-coma. From this she was easily roused for a short time, during which she spoke rationally and complained of headache, but soon relapsed into the drowsy state. The pulse was very quick and not hard, the temperature was 103°; the face inclined to duskiness. A bright light in the room caused evident distress. In the right membrana tympani was a large perforation from which a little pus exuded. Hard pressure over the mastoid bone caused the patient to flinch a little, but there was no tenderness at all over the region of the mastoid foramen; the optic discs were normal. Altogether the symptoms simulated in some respects blocking of the lateral sinus as closely as any case of the kind that I had ever seen; but, as you will have noticed, the crucial symptom—viz., post-mastoid tenderness—was wanting, and to my mind made it perfectly certain that no surgical interference in the direction of the lateral sinus was indicated. I therefore determined to wait. A day later ulceration on the right side of the fauces and right tonsil developed. The drowsiness and all the other head symptoms gradually passed away spontaneously in the course of the next forty-eight hours, so I left the patient in the hands of the family medical attendant. She subsequently developed pneumonia of a very low type, her whole illness being dependent probably upon poisoning by sewer air, a theory corroborated by the fact that her mother, who had no ear affection or other organic disease, was seized almost directly in the same way and died of pneumonia in seventy-two hours. The case of this patient appears to be an admirable one to illustrate not only the value of a knowledge of the symptom we are now discussing, but also the advantage of delay before operating in some of these cases of acute symptoms arising apparently in connexion with ear disease.

With regard to the condition of the optic discs in these cases I have not much to say. "Choked disc" (a term which I prefer to "optic neuritis," as I do not see how the condition can be correctly regarded as inflammatory) is a very uncertain symptom and one concerning which we have much to learn. In thrombus of the lateral sinus it is sometimes absent altogether; in advanced cases it is generally present on both sides, although the sinus is blocked on one side only. It may be unilateral, and when so is occasionally found on the side opposite to that of the affected sinus. The moral of these uncertainties and variations is merely this, that although the presence of choked disc on one or both sides is corroborative of blocking of the lateral sinus its absence in no way negatives the existence of thrombus. Unnecessary delay should not therefore be countenanced in waiting for the manifestation of this symptom before operating, especially as there are, as I have pointed out, other signs by which thrombus in the lateral sinus may be diagnosed with certainty.

DISCOVERY OF THE LIFE HISTORY OF BILHARZIA HÆMATOBIA (COBBOLD).

BY DR. PROSPERO SONSINO,
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HAVING been for a long time desirous of continuing my studies on the life history of the bilharzia, which were interrupted on my leaving Egypt in 1885, it occurred to me that the south of Tunis would be a suitable place for the purpose. Indeed, the fact that instances of bilharzia disease have recently been discovered in France amongst soldiers who had served in Tunis (Villeneuve's, Brauth's and Calvier's cases) proves that this African parasite is to be found even in the most northern parts of the continent. I arrived in Tunis last June, but failed to find examples of bilharzia disease in that city. I was more successful in Gabes, where I found several cases, the material from which enabled me to bring my investigations to a successful conclusion. I cannot say whether bilharzia disease can be acquired in Gabes itself, as the six cases which I saw there were in individuals who had come from the interior of the country. Four of them belonged to one family, the members of which had been living in Gabes for a year, having come from Kbillee (on the eastern side of the Shot of Djereed), and where they were already affected with characteristic bilharzia hæmaturia. Of the other two, one, a Tripolitan, had lived in many different places in the interior and the other, a boy, came from Gafsa. It is quite possible that at the present time the parasite cannot be acquired at Gabes, in consequence of certain arrangements which have been made by the French authorities in connexion with the water-supply, whereby its pollution is prevented. The six cases, however, which I had at my disposal in Gabes provided me with a supply of ova sufficient for the experimental rearing of embryo bilharzia in association with different kinds of fresh-water animals (molluscs and arthropods). After many experiments I succeeded with a small crustacean (amphypoda) and obtained evidence that this same crustacean is an effective intermediary host of bilharzia, and so discovered the secret of the life history of this African parasite. Not being quite satisfied on all points I did not at once publish the discovery, but contented myself, in view of establishing the date of my discovery, with sending a sealed letter on Aug. 3rd to the secretary of the Società Toscana di Scienze Naturali in Pisa. The conclusions therein detailed I have now decided to publish. They were as follows: 1. Bilharzia hæmatobia has a life history differing from the typical one of the digenetic trematodes as represented by fasciola hepatica. 2. Its life history is less complicated than that of the digenetic trematodes; it requires an intermediary host and undergoes a metamorphosis, but there is no alternation of nor asexual generation. 3. In this way it resembles in its life history the holostomes rather than the distomes. 4. The intermediary host is a small crustacean. 5. The free embryo, which swims actively about, on encountering the crustacean attacks the latter at a vulnerable point and, by means of the papilla at its head, bores and forces its way into the body of this animal after having rid itself of its covering of cilia. Having effected an entrance it proceeds to encyst itself. 6. The part of the crustacean in which the bilharzia cysts are most frequently located is that corresponding to the first segment and near the eye. 7. The encysted larva, being transferred with the crustacean in drinking water to the human stomach, is then set at liberty. Afterwards, penetrating the intestinal walls, it arrives in the portal vein, where, presumably, it completes its development. After I had despatched these conclusions I continued my researches

in Gabes and discovered that the larva of an insect (probably a species of ephemerida) was also an efficient intermediary host. With the view of making control experiments I proceeded to Gafsa, as I had been assured by the principal medical officer of the military hospital of that place that bilharzia disease was endemic there. Here I had access to several cases of indigenous origin. I found that not only is the disease very common in Gafsa in the native population, but that the cases were sometimes of a grave character, such as I had previously frequently met with in Egypt. I may say that my researches in Gafsa confirm the conclusions above detailed in so far as I succeeded in rearing bilharzia embryos in the aquatic larva of an insect; but, strange to say, I did not meet with this insect larva at Gabes; nor did I succeed in finding in Gafsa the larva of the insect nor the crustacean which served me as subjects for my experiments at Gabes. Thus I concluded that several kinds of aquatic arthropoda may act as efficient intermediary hosts for bilharzia, whilst molluscs seem to have nothing to do with its life history. I may add that in these intermediary hosts the cysts of bilharzia resemble very closely the asexually generated cysts of young distomes. They are globular, having a double outline and a diameter of from 0·075 mm. to 0·120 mm. If the included parasite be not moving spontaneously, movement may be elicited by adding to the slide a little warm water. The cyst is elastic and compressible, but it is difficult to rupture. Up to the present I have failed to liberate the parasite without completely destroying it. As seen in the cyst it presents no features by which it can be distinguished from other kinds of encysted distomes, with the exception that its integument is firmly and characteristically beaded, just as in the earlier stage of the embryo bilharzia, as described by Cobbold[1] in 1872, and as I figured it in my first paper[2] on this parasite in 1874. I may mention that as regards the anatomy of the embryo bilharzia I can confirm what has quite recently been announced by Railliet,[3] but which I have long known, that whilst still *in ovo* it is provided with two pairs of ciliated infundibula, one pair being in the anterior third and one pair in the posterior third of the body. These infundibula are very apparent and are to be best seen by slowly lowering the focus of the microscope whilst examining the embryo. As the larval phase of bilharzia found encapsuled in the intermediate host is, in a biological sense, different from the encysted cercaria phase of the typical distomes — inasmuch as it is a direct encystment of the embryo and not, as in the case of the cercaria of the distomes, the encystment of the asexually generated progeny of a redia developed from an embryo distome,—it is desirable to provide this larval encysted stage of bilharzia with a distinctive name. As the corresponding larval phase of the holostomes—which, as regards this part of their life history, bilharzia closely resembles—is designated "tetracotyle," the term "dicotyle" appears to be appropriate, the bilharzia larva having only two suckers. The insect aquatic larvæ in which the dicotyle of bilharzia is found encysted have a length of 7–8 mm. and a thickness of about 0·3 mm. The crustacean is about the same size. The magnitude of these intermediary hosts renders it easy by a little attention being paid to the drinking water to preserve a community from infection by bilharzia, as the investigation I have made would tend to show that the drinking water which is obtained from pools, tanks and streams which contain arthropoda is the medium by which this parasite gains access to the human body and it is probably the only medium; therefore bathing in such water, if the bather should swallow the water, is dangerous. Filtration, even rough filtration through linen, will afford complete immunity. It will thus be seen that the rules I laid down many years ago for the prevention of bilharzial infection, which were repeated in a paper read by me at the last International Congress of Hygiene (1891), and which appeared in THE LANCET of Aug. 22nd and 29th, 1891, are still appropriate.

I wish also to note that the discovery of the life history of bilharzia, to which I applied myself now more than ten years ago, and which, perhaps, I would have effected much sooner could I have continued my earlier researches in the Khedivial Laboratory at Cairo, gives prophetic significance to the forecast which I made in a paper published in 1884, the concluding words of which I reproduce in their original language: "Non é improbabile che la bilharzia che per tante particolaritá s'allontana dagli altri generi di distomi offra ancora questa singolaritá di avere per ospiti intermediarii animali di classi diverse da quelle che servono allo oviluppo degli altri distomi o quella di compire tutto il suo vilo vitaló in parte libero nell' acqua e in parte parassita in un solo ospite finale e forte senza reproduzione alternante."

Gafsa, Tunis.

[1] On the Development of bilharzia hæmatobia, being a paper read before the Metropolitan Counties Branch of the British Medical Association on May 17th, 1872. (Brit. Med. Jour.)

[2] Ricente informa alla Bilharzia Hæmatobia in relazione colla Imaturia Endemica in Egitto. Rendiconto della R. Academia della Scienze di Napoli, 1874.

[3] Observations sur l'Embryon du Gynecophorus Hæmatobius Bilharzia. Par A. Railliet, Paris, 1892. Bulletin de la Société Zoologique de France, 1892, tome xvii., p. 151.

ANATOMY AND PHYSIOLOGY OF THE BILHARZIA OVUM:

EXTRACT FROM A SUMMARY OF A THESIS ON BILHARZIA HÆMATOBIA.

BY GEORGE SANDISON BROCK, M.D. EDIN.

I WISH, in the first place, to describe with some minuteness the ovum of the bilharzia. In itself it is both curious and interesting, and it is well worth study; and, as a complete knowledge of it seems to be the only means of putting the question of its identity with that of the Egyptian parasite beyond dispute, I have bestowed a good deal of attention upon the subject. It has been a difficult matter in studying such a delicate object to make out its various parts with accuracy, and I cannot pretend to have done so; yet I have been able to find out some important points that, so far as I am aware, have not been noticed by any previous observer. As already mentioned, the ova of the bilharzia have been seen in the ovisac of the mature worm, but I have only been able to study them as they appeared in the urine of patients who were suffering from the disease. In this situation they may, however, be met with in all stages of development, and in enormous numbers. The most immature ova have a simple envelope with a short spine at one end, and they are filled with granules of various sizes. They are (Cobbold) about $\frac{1}{170}$ in. in length, and about $\frac{1}{370}$ in. in breadth. In older specimens segmentation may be seen in different stages of advancement, and by searching carefully one may trace, step by step, the development from a simple chaotic granular mass through all the stages until the creature finally attains the definite and comparatively complex structure of the mature embryo. The fully matured ovum (see p. 623) is very similar in shape to a hen's egg and measures from $\frac{1}{170}$ in. to $\frac{1}{130}$ in. in length and about $\frac{1}{370}$ in. in diameter (all measurements are taken from Cobbold). There is, however, much irregularity to be seen even in mature specimens, both as regards size and shape. Some are a little larger and others are a good deal smaller; whilst some are long and narrow others have more the shape of a pear or a boy's kite. The outer envelope or shell is so clear and smooth that it scarcely, if at all, interferes with one's view of its contents. By reflected light it appears to be shiny and of a brownish or pinkish neutral tint. It is soft, delicate, and very thin, but its double contour can be made out under a high power, especially at the narrower end of the egg, at which part a sharp, projecting spine of varying length is usually placed. This spine is often very short and it is sometimes altogether absent. Its average length is about $\frac{1}{1370}$ in. or one-tenth of the total length of the egg. According to Cobbold it is the homologue of a very much larger structure in certain other trematode ova, where it serves as a "holdfast" by which the eggs attach themselves to the body of their host. In the bilharzia its use in this respect, if it has any, must from its straightness and trifling length be very slight. In eggs which have been voided through the rectum it is said that these spines are often placed laterally. I have never been able to obtain any so passed, but I can confirm Harley's assertion that those from the urinary passages never present this peculiarity. Lining the interior of the shell and intervening between it and the embryo is a delicate granular membrane. The space between this membrane and the embryo varies much according to the size and state of contraction of the latter, shortly before whose escape it becomes filled with numbers of bright granules which are extruded through certain apertures (which are presently to be described) in the sides of the embryo. These granules exhibit Brownian movements and are often further agitated

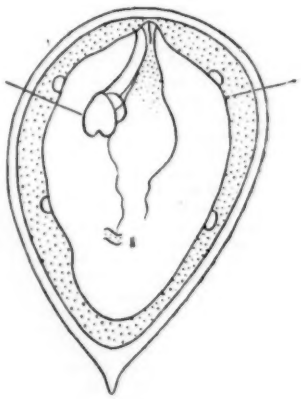
by the action of the cilia with which the body of the embryo is covered. I next come to the embryo itself which, until the time draws near for obtaining its liberty, lies quiescent in its shell, only occasionally moving its head from side to side or drawing its whole body upwards with a jerking movement by means of attachments between the front part of its body and the adjoining part of the vitelline membrane. A cursory glance shows what at first appears to be a structureless sarcodic mass roughly corresponding in shape to the surrounding envelope; but closer examination shows that this apparently simple mass is a creature of very considerable complexity of structure. The cephalic end of the embryo, which is sometimes placed at that end of the shell which terminates in the spine

Embryo of bilharzia hæmatobia *in ovo*, as seen with magnifying power of 580 diam. (enlarged × 4). Dorsal aspect. A, Oral aperture. B, Oral papilla. C, Projecting point of stalk of pyriform body. D, Œsophagus. E, Œsophageal bulb. F, Stalked mass with nucleus. G, Anterior series of coronal apertures. Q, Extruded globule. H, Point showing rhythmical contractile movement (right anterior). I, Stomach. J, Commencement of intestine. K, Posterior series of coronal apertures. L, Extruded globule. M, Point showing rhythmical contractile movement (right posterior). N, Water vascular system. O, Cilia. P, Spine.

and sometimes at the other, is distinguished from the caudal end by its shape, which is that of a truncated cone with the extremity further prolonged into a button-like projection—the oral papilla. The whole body, with the exception of this papilla, is covered with cilia, which are arranged both longitudinally and transversely in beautifully regular lines. This regularity is interrupted at two situations, where certain lateral apertures are placed round the body, thus dividing the surface into three zones—cephalic, caudal and intermediate. Close to the base of the papilla the cilia are short, but further back they gradually increase in length, until at a point where the anterior series of apertures open they reach their extreme length of about $\frac{1}{750}$ in. The cilia of this cephalic zone are stronger and more active than those of the intermediate and caudal zones. They are nearly always in motion, even before the embryo escapes from the shell, and are the last to retain their movements when the embryo is dying. Those of the intermediate and caudal zones are fairly uniform in length and they are very delicate and are easily injured. One circular row of them, which is placed at the junction of the zones beside the posterior series of apertures, has the peculiarity of frequently standing straight out from the body, vibrating slightly or quite motionless, whilst all the other cilia are moving rapidly. Before speaking of the structures in the interior of the embryo certain orifices on its surface remain to be noticed. The mouth is placed in the centre of the tip of the oral papilla. At the extremity of the caudal end, where the alimentary canal in distomes terminates cæcally, a slight depression generally exists. It is probably only a rudimentary structure, for I have never been able to find any connexion between it and the alimentary canal, and I have never seen anything being extruded from it; or it may possibly be an open *foramen caudale* which is connected with the water vascular system of the embryo. The function of excretion seems to be performed by the two series of lateral apertures which have already been referred to. These are placed coronally at about an equal distance from each pole of the embryo, the distance between the poles being about a quarter of the embryo's whole length. Those of the anterior series merge into one another so as to form a coronal slit in the ciliated covering of the animal, into which excretory ducts probably open. The posterior series is much more distinct and the apertures number about thirty. From both series extruded matters are often to be seen emerging in the shape of globules and granules, and it is from such extrusion that the granules, which have been previously mentioned as being contained in the space in the ovum between the embryo and its inner envelope, are probably derived. So far as I am aware no similar structure is described as having been observed in the embryos of any of the other entozoa and not one of the descriptions I have seen of the bilharzia ovum contains any reference to them. The body of the bilharzia embryo consists of contractile protoplasm, through which refractile granules and globules of various sizes are interspersed. It is furnished with a digestive and a water vascular system, and it contains other structures as well. There is a distinct œsophagus, terminating anteriorly at the oral papilla in a somewhat dilated funnel-shaped end, which has transverse markings that give it the appearance of being ringed. Posteriorly is the large stomach, which occupies a considerable space in the anterior half of the embryo and terminates behind in a tube of large size, which is so indistinctly differentiated from the surrounding sarcode that I have been able to trace it for only a short distance, when it appears to bifurcate. From the manner in which excretion takes place—namely, by the numerous lateral apertures—it is probable that the tube divides and subdivides in the body and that its branches open at these various points. The presence in the embryo of a water vascular system was noticed by Cobbold; but without being aware of this I had satisfied myself of its existence and made out certain other interesting points about it before I obtained Cobbold's paper. It is to be best seen after the embryo has escaped from the shell and has been swimming about for some time in water. It begins at the oral papilla, round the base of which there seems to be a circular vessel, and one branch passes down either side of the body, nearer the dorsal than the ventral aspect, until the two branches meet one another near the depression which has been previously noticed at the caudal extremity. In their passage downwards they give off several anastomosing branches, which ramify over the whole body of the embryo, but which specially concentrate and arrange themselves about four particular points, being placed in pairs, one pair lying in the anterior half and the other pair in the posterior half of the body. If the embryo be alive there will always be seen at these four points a rhythmical contractile movement, varying in rapidity from two or three up to many beats per second, being slow or rapid according as the embryo is active or the reverse. It has nothing to do with the movements of the surface cilia, which are often quiescent whilst the contractile organs are active. The members of each pair are situated symmetrically on either side of the body about $\frac{1}{750}$ in. apart, those of the anterior pair usually lying in the interval between the sides of the

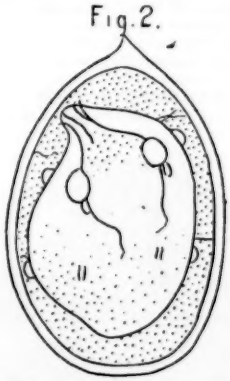
stomach and the two pyriform masses (which are presently to be described), those of the posterior pair being a little way behind the plane of the posterior series of apertures. Placed in th centre of a complicated network of tubes, and exhibiting such well-marked contractile movements always in a definite direction, these remarkable organs can hardly be other than circulatory in their function, serving to propel a nourishing fluid through the aquiferous system and probably also to establish communication between that system and the fluid in which the embryo swims. A short tube can be seen to pass from each to the nearest of the lateral apertures, the anterior pair of contractile vesicles or tubes communicating with the anterior series of apertures, and the posterior pair with the posterior series. I have, however, entirely failed to detect any circulation either in the tubes immediately surrounding the contractile organs or in any of the numerous branches which are distributed elsewhere in the body; but this failure I attribute to the transparent character of the circulating fluid. The most prominent of the structures in the interior of the embryo yet remain to be described—namely, two rounded masses lying in the anterior half of the embryo, one on either side. In the various accounts of the ovum which I have seen these masses are spoken of as pyriform bodies, and they often have a pear-like shape, although more generally they are irregularly rounded on quadrilateral and are frequently to be seen with a notch in their posterior border. They are roughly granular bodies measuring about $\frac{1}{2500}$ in. in diameter, with a bright double outline and containing in their interior one or more prominent nuclei. They are situated on either side of the stomach about the junction of the anterior and middle thirds of the body, being nearer to its dorsal than its ventral aspect. From the forepart of each a stalk-like process passes forward, one on either side of the œsophagus, which has just room to pass between and below them, and terminates in a small point projecting slightly beyond the surface on either side of the oral papilla. These stalk-like processes have been described by Harley as tubes, but I have not been able to see any appearance of their being hollow, and I believe them to be solid and possibly muscular organs which give the head more rigidity and help in its movements. I find that these two pedunculated masses are invariably present in the mature ovum. It would be interesting to know what part they play in the later phases of development. Cobbold speaks of them as varying in number, but he was probably looking at them in profile when he saw only one. (Fig. 1.) His description, indeed, both of the digestive

Fig. 1.



apparatus and of the stalked masses, gives altogether only a vague idea of their structure and relations. After the ovum is voided with the urine, if it be mature, certain changes go on in it, resulting in rupture of the envelopes and escape of the contained embryo. The cilia of the cephalic zone first begin to move rapidly and the creature moves its head about in all directions (Fig. 2) evidently endeavouring to free itself from its attachments to the inner envelope, extruding at the same time from its lateral apertures numbers of granules and globules of various sizes similar to those which are to be seen within the body substance, as well, probably, as a fluid, so as to distend the space between itself and that envelope. All the cilia are soon at work, creating a great commotion amongst these particles, vigorous contractions of the body taking place the

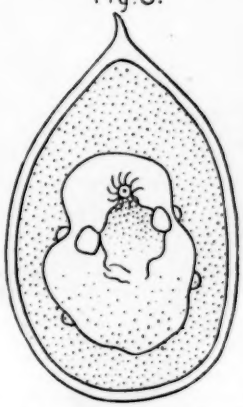
Fig. 2.



Embryo preparing for its escape.

while, by means of which it is considerably increased in breadth and presses upon the sides of the shell. The oral papilla is also used with great vigour as a proboscis to rub against the investing membrane in all directions, the creature

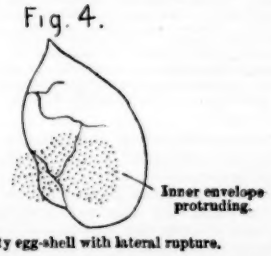
Fig. 3.



Embryo in shell, but free from all its attachments, just prior to its escape.

twisting itself about, drawing itself up and even eventually, when quite loosened from its attachments, turning complete somersaults in the shell. (Fig. 3.) The shell meanwhile grows more and more delicate and thin until at length a

Fig. 4.

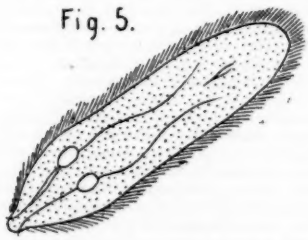


Empty egg-shell with lateral rupture.

longitudinal lateral rupture takes place by which the embryo promptly emerges, presenting indifferently by cephalic or caudal end. The membranous envelope either remains behind in the outer shell, or protrudes through the slit (Fig. 4). If

the urine be watery, or if it has previously been replaced by pure water, the escaped embryo, relieved from the confining pressure of the shell, assumes its natural conical elongated form and swims away with great rapidity (Fig. 5). If there

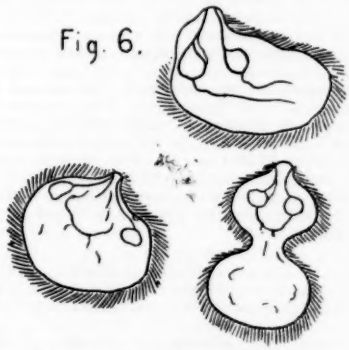
Fig. 5.



Free swimming embryo.

be much impurity in the surrounding fluid, or if the weather be cold, or if the embryo has been prematurely launched into it, strange and unnatural shapes are assumed (Fig. 6), a very

Fig. 6.



Anomalous forms of liberated embryo.

common form being that of an hour-glass. The time required for hatching varies very much according to the temperature of the air and the state of development of the embryo. As a rule, in the case of an ovum fully matured, rupture occurs within two days in warm weather, but under other circumstances it may be delayed for many days. Cobbold, Sonsino and others have made many attempts to keep alive the liberated embryo, but after a few days—and before, as a rule, any further development has taken place—the death of the embryo defeats the inquiry. One experimenter states that very soon larvæ make their appearance, by means of a sort of internal budding, in the embryo, which dies and is ruptured in order to be delivered of them. Judging by analogy, however, it is most probable that the larvæ become encysted on or in some aquatic animal, possibly passing through more than one phase and through more than one host before attaining their perfect development in the human system. They have been experimentally brought in contact with different species of fishes, mollusca, crustacea, larvæ of other insects &c., but have in no single instance been found to attack any of them. The further steps in its development, therefore, still remain a mystery.

Rustemberg, Transvaal.

LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY.—On Wednesday, Aug. 23rd, at the Thames Police-court, "Dr." Blumberg, of 230A, Commercial-road, E., was brought up on a warrant and charged with obtaining money by false pretences from Mrs. Donenberg, on whom he had operated, with disastrous results, for the cure of sterility. The case was adjourned till Thursday, Aug. 31st, when "Dr." Blumberg was again brought up, and a further remand was granted until Thursday, Sept. 7th. "Dr." Blumberg was, moreover, charged with violation of the Medical Act, he not being registered in the Medical Register.

AN ANALYSIS OF THE GASES OF THE BLOOD DURING CHLOROFORM, ETHER, BICHLORIDE OF METHYLENE AND NITROUS OXIDE ANÆSTHESIA.

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THE following notes on the gases of the blood in anæsthesia must be regarded as prefatory to future papers rather than as in any way conclusive. There have been many difficulties connected with our researches and a series of interruptions over which we have had no control. There is, too, comparatively speaking, an absence of literature dealing with the subject. The investigations of Richardson, Schmiedeberg, Böhr, Paul Bert, Grehant and De Saint Martin cannot in this respect, however, be overlooked. Sudden death in chloroform anæsthesia is so appalling that any effort which is put forward to solve the problem of its causation is worthy of attention. The purely physiological side of the question has been most ably studied by Brunton, Lawrie, Gaskell and Shore, and by Horatio Wood and Hare, not to mention others. It is scarcely necessary for us to do more than to repeat these names to recall the high-class character of the work they have accomplished. Does the composition of the blood in anæsthesia throw any light upon sudden death? We have analysed the gases of the blood in chloroform, ether, bichloride of methylene and nitrous oxide anæsthesia; and, whilst there is no one feature that stands out prominently in the results we have obtained, there are certain facts that become valuable by comparison and which are not without suggestiveness. The animals which have been experimented upon were rabbits—not at all a suitable class,—but the best which we could obtain under the circumstances. Rabbits, speaking generally, are too easily killed by chloroform. Dogs are better, but we only employed one. In all our experiments narcosis was complete before the blood was removed, no pain was experienced and the animal was never allowed to regain consciousness. In the present investigation we have been satisfied simply with the production of anæsthesia without reference to the amount of the anæsthetic employed. That subject, together with a more elaborate analysis of the expired air, we hope to undertake on a future occasion. Arterial blood, unless otherwise stated, was employed for analysis. As the composition of arterial blood varies in different vessels, we generally removed it from a large branch of the abdominal aorta—e.g., the external iliac artery. The blood was withdrawn through a hollow needle and rubber tubing—which had been previously filled with a weak solution of chloride of sodium—into a pipette containing mercury; the heart's beat in almost every instance being sufficient to fill the tube, aided, no doubt, by the suction influence of the mercury as it escaped from the other end of the pipette. The amount of blood which was removed was, on the average, 26 c.c. The pipette was then hermetically closed and afterwards plunged into a column of ice, in which it was removed to the chemical laboratory. Clotting never occurred. Subsequently the pipette was attached to a Pflüger's gas pump modified by Professor Bedson of the Durham College of Science, to whom we are indebted for his kindly supervision of our work, and also for many suggestions. When the gases were given off by the blood in vacuo they were analysed in Dittmar's apparatus, using the Hempel pipettes as modified by Professor Bedson. The carbonic acid was determined by absorption with caustic potash, the oxygen by absorption by means of ferrous tartrate, and the vapour of the anæsthetic by combustion with oxygen, a little electrolytic gas being employed to bring about the explosion. After the explosion the excess of oxygen was removed and the residual nitrogen measured. All the volumes given in this

paper are reduced to normal temperature and pressure—(0°C. and 760 mm. Hg.):—

Gases of arterial blood in volumes at 0° C. and 760 mm. Dog (normal).

	Handbook of Physiological Laboratory.	Meyer [from Halliburton].	Pflüger [from Halliburton].
CO_2	39·5	26 to 34	34·3
O	17·65	12 to 18	22
N	2·1	3 to 5	1·8

Dog. Arterial blood in Chloroform Anæsthesia. (Oliver and Garrett.)

CO_2	37·21
O	17·09
N	8·03
$CHCl_3$	0·92

Rabbit. Arterial blood. Chloroform Anæsthesia. (Oliver and Garrett.)

	A	B	L
CO_2	6·46	19·33	24·85
O	20·96	16·86	13·14
N	54·72	38·33	13·7
$CHCl_3$		4·55	2·59

Rabbit. Arterial blood. Ether Anæsthesia. (Oliver and Garrett.)

	D	E	F
CO_2	25·5	34·52	14·73
O	26·47	27·73	23·07
N	25·63	1·34	6·16
Ether	0·79	0·67	0·59

Rabbit. Arterial blood. Bichloride of Methylene. (Oliver and Garrett.)

	G	H	I	K
CO_2	33·99*	13·12	32·21	17·62
O	5·2*	21·26	13·51	14·16
N	8·92*	21·67	6·74	12·96
Combustible gas-methylene chloride	0·57*	1·31	1·20	0·99

* Removed from right heart.

Rabbit. Chloroform and Oxygen. (Oliver and Garrett.)

	M	N	O	P	U
CO_2	45·18	58·43	37·26	26·38	35·96*
O	21·02	16·06	22·95	19·03	16·83*
N	8·96	11·56	11·65	8·92	6·62*
$CHCl_3$	1·18	1·20	0·62	1·5	a trace.*

* Bairl and Tatlock's oxygen used.

Rabbit. Ether and Oxygen. (Oliver and Garrett.)

	R	T
CO_2	18·85	34·02
O	15·11	21·25
N and Combustible gas..	20·53	33·97

Rabbit. Nitrous Oxide. (Oliver and Garrett.)

	S
CO_2	15·66
O	3·49
N_2O	22·49
N	11·23

Rabbits took ether with greater safety than chloroform. The respirations became rapid and the temperature rose, but after death the heart would continue to beat for a variable length of time; sometimes the left side of the heart would be, comparatively speaking, empty whilst the right was full, or, as in others, the heart would be found to be over-filled in all its chambers, and relaxed. On looking over the first three tables under chloroform anæsthesia (rabbits B and L), and including the dog, it is noticed that the number of volumes of oxygen present in the blood is not large; the carbonic acid, with the exception of the dog, is not excessive. It is to be noticed, however, that a new feature has been introduced in the presence of a very large quantity of nitrogen. Chloroform exercises some influence upon the blood cells, but whether it is by direct chemical combination or by some solvent influence upon the hæmoglobin we are not at present prepared to say. It destroys the absorbing power of hæmoglobin for oxygen. Under these circumstances it is possible that the nitrogen from the atmospheric air may pass into the blood and supplant for the time being the oxygen. Rabbit's blood is said to contain always a smaller quantity of oxygen than the blood of mammals generally. In regard to the gases of the blood it has been shown by Paul Bert and De St. Martin that as the animal becomes more profoundly anæsthetised the oxygen diminishes whilst the carbonic acid increases. That is quite in keeping with our own view upon the subject. One of the examples given by Paul Bert is the following: before anæsthesia, oxygen 22 c.c. and carbonic acid 31·2 c.c.; thirty minutes after anæsthesia, oxygen 16·8 c.c. and carbonic acid 41·2 c.c.; an hour later (ten minutes before death), oxygen 14 c.c. and carbonic acid 44 c.c.[1] De St. Martin's experiments point in the same direction. At first Paul Bert's and De St. Martin's experiments seemed to be contradictory to each other. One fact must be borne in mind and that is that the removal of large quantities of blood seems to alter in a very marked manner the composition of the gases of the blood. It is a mistake therefore to remove very large samples of that fluid for successive examinations. Making allowance for this influence the fact remains that as chloroform narcosis is pushed the tendency is for the amount of oxygen in the blood to diminish and the carbonic acid to increase. In some cases of chloroform anæsthesia in the dog De St. Martin found that the amount of oxygen was not diminished. His explanation was that in this animal the early stage of anæsthesia was accompanied by deep and forcible respiration amounting to dyspnœa, and it was this rapid ventilation which he regarded as favourable to the absorption of oxygen by the blood whilst it facilitated the exhalation of the carbonic acid. His third experiment[2] is a good illustration of the remark that as anæsthesia deepens oxygen disappears and carbonic acid increases. From a healthy dog weighing 18 kilogrammes he removed from the femoral artery at 9.50 A.M. 20 c.c. of blood (α). Five minutes later the animal began to breathe air containing 10 per cent. of chloroform. At 10.7 A.M. it was asleep: 20 c.c. of blood were removed at 10.10 A.M. (β). Half an hour later, during which it had been breathing this chloroform atmosphere, another 20 c.c. of blood were removed (γ). Here is the analysis of the gases in 100 c.c. of blood at 0°C. and 760 mm. Hg gases:—

	α	β	γ
CO_2	40·85	36·40	50·62
O	15·20	15·05	12·83
N	2·45	2·85	3·05
	58·50	54·30	66·55

Paul Bert carried his experiments further than De Saint Martin and proved that these results became more and more accentuated as death approached. Looking back upon the tables under the heading of "arterial blood" in ether anæsthesia it is noticed that the largest amount of oxygen was found in the blood under this anæsthetic and that, with one exception, the amount of nitrogen is smaller than in chloroform. Bichloride of methylene proved itself in our hands to be rather an unmanagable anæsthetic in the case of rabbits. Very early under its administration the breathing would suddenly cease and it could not be restored by any methods of artificial respiration that we adopted. Yet all the while the heart was felt beating and would continue to do so for more than ten minutes after its removal from the body. When death occurred the heart was always in diastole. All its cavities were filled; the right half looked as if it was painted blue whilst the left was very red. If death was not sudden it was preceded by shorter and still shorter but feebler respirations; but once this condition was reached and atmospheric air supplied death was not averted. In the rabbit G, for example, whilst attempting to remove blood from the femoral artery respiration suddenly ceased, but the heart was at once cut down upon and 26·5 c.c. of blood were without difficulty removed from the right ventricle. In G, therefore, it is an analysis of venous and not of arterial blood. This circumstance alone may explain in this particular instance the large amount of carbonic acid which was present in the blood and the deficiency of oxygen. When a mixture of chloroform and Brin's oxygen, which contains 7 per cent. of nitrogen, was being administered to a rabbit the breathing became suspended for a few seconds, especially when there was excess of oxygen, as if the animal was in a state of apnœa. This was shortly afterwards succeeded by a condition in which breathing was very active, the respirations varying from 60 to 80 in the minute. Anæsthesia was always less quickly induced

[1] Paul Bert: Étude Analytique de l'Anæsthésie, p. 444 &c.
[2] Recherches Expérimentales sur la Respiration, p. 189.

than when chloroform alone was inhaled. The blood from the artery of the animal flowed into the pipette under high pressure and had a bright scarlet colour; but in spite of that it was found on analysis to contain a larger quantity of carbonic acid than when chloroform alone was employed. Towards the end of life the breathing became very short and feeble and gradually ceased; but on opening the chest the heart in every instance continued to beat vigorously for several minutes, the left side being noticed to be practically empty compared to the right. The pupils after death were found to be semi-dilated. In the cases where oxygen was allowed to commingle with the vapour of chloroform—a condition which we accomplished by passing oxygen from a cylinder through chloroform, the latter being exposed to a slight rise of temperature—the supply of oxygen was so free that the animal, whose head was in a tight-fitting mask, could not have suffered in any way from an excess of carbonic acid. In three of the experiments we analysed the expired air, and we found that the carbonic acid in the gases escaping from the mask varied from 0·4 to 0·9 per cent. We always allowed an excess of oxygen to pass over with the chloroform. The air escaping from the exit-tube of the mask in rabbit P contained—CO_2, 0·8 per cent.; O, 64·0 per cent.; and N, 35·2 per cent., whilst in the rabbit U the escaping air contained—CO_2, 0·5 per cent.; O, 74·3 per cent.; N, 23·3 per cent.; and $CHCl_3$, 1·9 per cent. When ether and oxygen were administered the animals went quietly under the influence of the anæsthetic, the respiration and circulation were well maintained and the blood escaped from the artery under higher pressure than in any of the other experiments. Long after the respiration had ceased, when the chest was opened the heart would be seen to be beating with extreme vigour, the movements being very forcible. The pupils were the size of a large pin's head. In one or two of the rabbits it seemed to be almost impossible to check the respiration and circulation when the anæsthesia was profound. If pure chloroform was at this stage applied to the nostrils of the animal its inhalation was almost immediately followed by rapid dilatation of the pupils and the respiration would gradually but quickly cease.

It is difficult to express an opinion upon the gases of the blood in the ether and oxygen experiments. In the chloroform and oxygen experiments and also in the rabbit T (ether and oxygen) it would appear as if the excess of carbonic acid in the blood was not of itself the source of danger. The freedom with which an excess of oxygen passed into the lungs would, if it were absorbed, promote oxidation of the tissues and therefore further the production of carbonic acid. For safe anæsthesia it is rather a question of the ease or rapidity with which the blood can part with its oxygen to the tissues and at the same time good ventilation of the lungs, whereby the carbonic acid may readily escape from the blood. Nitrous oxide destroyed rabbits very quickly. The movements of the heart and respiration would suddenly cease simultaneously, or the respiration would suddenly be arrested, and on exposing the heart a few flickering impulses would be noticed in the auricles. Removal of a small quantity of blood from the heart would cause renewed and fairly vigorous movements of that organ. The pupils were dilated and the lungs were collapsed and empty of air. All the large veins were over-distended with dark blood and the arteries were empty, whilst the heart was overfilled in all its chambers. Anæsthesia by nitrous oxide seemed to be extremely rapidly induced. In the case mentioned in the table—rabbit S—only four minutes elapsed from the commencement of the administration of the anæsthetic to the pipette being filled with blood and placed in the column of ice. The analysis of the gases of the blood in nitrous oxide shows a most marked deficiency of oxygen, but no excess of carbonic acid; nitrous oxide and nitrogen are present in considerable quantity. So far as nitrous oxide anæsthesia is concerned the danger probably depends upon the great absence of oxygen, for it will be observed that the carbonic acid is present in small quantity compared with that in the other anæsthetics; but it is present in very large quantity relatively to the amount of oxygen associated with it in the blood.

Newcastle-on-Tyne.

DR. R. JULYAN GEORGE of Port Isaac, public vaccinator for the No. 1 District of the Bodmin Union, has been awarded the grant for successful vaccination in his district by the Local Government Board.

ON THE

ULTIMATE CONDITION OF CLEFT PALATE CASES AFTER OPERATION;

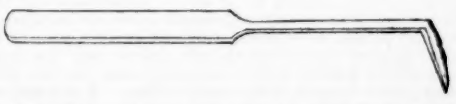
TOGETHER WITH A NOTE ON THE CONDITION OF THE PALATE DURING THE ACT OF SNORING.

BY C. J. BOND, F.R.C.S.,

HONORARY SURGEON TO THE LEICESTER INFIRMARY AND FEVER HOUSE.

BEFORE speaking of the later results after operations for closure of cleft palate, there are one or two points in connexion with the operation itself which may, I think, prove to be of interest. Too much importance can hardly be attached to a free and thorough separation of the muco-periosteal flap, not only from the hard palate at the sides of the cleft, but also from the posterior bony edge of the hard palate; and I have found the knife represented in Fig. 1 to be useful in accomplishing this latter object. As will be seen, it has a short

FIG. 1.



blade which is set at right angles, with the cutting edge along its lower border, and after the curtain has been freed laterally and hooked forward the blade is introduced behind it on either side from within the cleft, and the fibrous connexion between the velum and the bony edge of the palate is divided directly backwards into the pharynx and to as great an extent outwards as may be desired. The position of the patient, with the head inverted over the edge of the table, is also a help at this stage of the operation. Free lateral or relaxing incisions through the whole thickness of the flaps on either side are of course equally essential, and if these two points are adequately carried out there ought, I think, to be little fear of failure of union, provided, of course, that there is a fair amount of flap material available and that the edges have been carefully pared and united without undue bruising. With regard to the uniting of the edges by suture, judging from my own experience, I must say that I find the simplest plans to be the best. I pass the sutures—wire for the hard portion and horsehair for the velum—with a single right-angled needle set on a handle in preference to the various hollow needle and reel appliances, which, however, are doubtless useful in some hands. Before considering the permanent result in these cases I should like to make a remark as regards the immediate or primary result, which pertains to the healing of the wound and the recovery of the patient. Judging from my own experience and from the recorded larger experience of those who have specially practised these operations it does not appear that there need be much doubt about union—that is, either complete, or nearly

FIG. 2.

complete—in the great majority of cases. In two cases in which temporary partial failure occurred the following causes deserve notice. In one case, although the median union was perfect, one lateral incision failed to close; and to avoid this in the future I should certainly, whenever the lateral gap is likely to be wide, also partially detach from the alveolus the portion of palate which is external to the lateral incision, as the want of closure appears to be due to the different inclination of the two membranes on either side of the lateral incision (see Fig. 2) and in the case mentioned a second plastic operation on these lines materially lessened

the gap. In the second case a persistent small opening—which has since closed, two years after the operation—was due to sloughing of a small portion of the thinnest and least vascular portion of one muco-periosteal flap, and this leads to a few remarks about the manner of healing or union in these cases. I doubt whether the union even in successful cases is always of an aseptic kind, for the following reasons. It is frequently found that there are considerable swelling and injection of the edges of the flaps which conceal the sutures—in fact, superficial infection of the edges of the wound is often to be seen even in successful cases. Further, this condition reaches its height about the fourth or fifth day, and it is at this date that any gaping usually occurs, although if there be no lateral tension and the parts be still held in apposition by sutures, this infective stage is successfully passed and strong union occurs. Whilst it is, no doubt, impossible in the case of a cavity like the mouth to exclude all infection, yet the free use of antiseptic washes and attention to carious teeth will minimise the risk. As regards the main object of these remarks—namely, the ultimate condition of these patients as far as speech is concerned,—I must confess at the outset that, speaking only of operations on cases of complete or nearly complete cleft of the palate—although a few of the results approximate to perfect success—I have never seen a patient who had been the subject of an operation for considerable cleft of the hard and soft palate, in whom one could not detect a more or less nasal element in the speech; that is to say, the newly formed soft portion of the new palate does not act in the same perfect manner as the normal palate. I have not seen any cases of adults in whom operation was performed at a very early age. Such cases are recorded as being perfect cures, and no doubt they do occur, and in such patients the subsequent growth of the new palate must occur in all directions and must keep pace with the rest of the pharynx. Apart, however, from a perfect result the improvement in many cases is very great, and it is brought about somewhat differently in various individuals. The real test is whether the power is restored of completely shutting off the nasal cavity at will, and this can be readily ascertained by noting whether the patient can forcibly blow out a lighted taper through the mouth without any air escaping through the nose. The causes of this failure to occlude the nasal cavity even after complete restoration of the palate seem to be several. Firstly, the soft curtain is too short from before backwards, partly owing, no doubt, to cicatricial shortening at the line of junction; and, secondly, it may be too rigid and board-like, and this causes it to be too tense—i.e., the original amount of tissue before approximation being scanty, the subsequent healing of the gaping lateral incisions and their cicatrisation tends to draw the expanded tissue back again. This condition of tension in the new curtain, in which it cannot be drawn freely upwards and backwards, can be easily recognised by the finger being pressed gently against it, and it is also no doubt associated in degree with the amount of infection of the wound which occurs at the time of healing, and it is less in cases of perfect primary union. Further, this loss of free movement does not depend on loss of muscular power, for the levator can be seen raising the velum to the full extent allowed by its rigidity. It is interesting to observe the different methods which patients unconsciously adopt to minimise this difficulty of inability to shut off the nasal cavity. In one case I have noticed that when the patient talks there is an associated movement in the muscles of the upper lip and also of the nose, just as in cases of narrowed ocular aperture there is sometimes an associated movement of the mouth muscles. The effect of this movement is partly to block or narrow the anterior nares by raising the upper lip, and with it the soft parts which are attached to the lower edge of the anterior nares and nasal spine, and so to check the rush of air through the nose in talking at the anterior instead of the posterior opening, and this occurs also in the subjects of cleft palate before any operation has been done. In another case, after closure of a somewhat tense palate, in which the posterior pillars and edge of the velum formed, with the pharynx a circular constricted opening, when the patient attempts to shut off the nasal cavity the post-pharyngeal wall is thrown into a marked transverse ridge, which comes forward, as it were, to meet the palate. The ridge is probably due to the elevation of the loose posterior pharyngeal wall by the contracting palato-pharyngei muscles. Having thus considered some of the ways in which patients try to assist or supplement this losure I will discuss the different artificial means which may be used to bring the same result about. The reason that I speak of teaching the patient to shut off the nasal cavity and not in a general way of trying to articulate slowly and plainly is that the loss of clear articulation depends on this inability of closure and can only return when the latter is restored. Even after a successful operation has been performed, as far as union of flaps is concerned and a satisfactory new hard palate is formed, the patient may articulate nearly as badly as before, even in the case of adults, who make careful attempts to articulate plainly, the reason being that they are quite unable to shut off the nasal cavity with a curtain which is either too short or two rigid. It might, indeed, be supposed that the new roof or hard palate still retains the high pitch of the sides of the original cleft, and so causes the difficulty in articulation by preventing the proper apposition of the tip of the tongue; but as a matter of fact this is not the case and the new palate remains permanently at the lower level to which the flaps are brought after detachment from the bony sides of the cleft—the roof, in fact, takes the form of a gentle curve or arch at the new level and not at the apex of the cleft. As regards any interval between the bone and the new muco-periosteal membrane, such does not seem to occur. I have tried to ascertain the condition from the floor of the nose by probe and inspection, but the interval always seems to be filled up and smoothed over by new tissue, so that a probe cannot be passed in from above between the bony palate and the new membrane. (See Fig. 2, A.) In order, then, to promote the power of shutting off the nasal cavity and so of improving the character of the articulation one must aim at increasing the mobility, pliability and, if possible, the depth of the new velum and also the approximative action of the palato-pharyngeal muscles in the posterior pillars. In the first place, I would suggest what I venture to call "massage of the palate," which is a mechanical gentle stretching of the velum by the finger, pressing it upwards and backwards and thus moulding it into shape to shut off the nasal cavity. With a little care this can be done without exciting attempts at vomiting, unless the posterior pharyngeal wall be touched. The patient should also practise forcible expulsion of air through the nasal cavity with the mouth closed, at the same time trying to suddenly stop the current by raising the velum. He should also at stated intervals go through the exercise of drawing a succession of quick, deep inspirations with the mouth held widely open, as this action is associated with a marked raising of the soft palate. No doubt, too, some good will be obtained by the careful repeated articulation of certain words, especially such as contain the consonants b, d, g, j, k, p, q, t, w, and z—explosive sounds, in fact, which require that the current of air through the mouth shall be arrested by the lips or tongue against the roof of the mouth and suddenly liberated, and, consequently, which further require the complete closure at a certain time of the nasal current. He may also practise talking with the head sharply flexed and the chin depressed on the sternum at the same time that the cervical spine is kept straight, as in this way, by the flexion of the skull at the occipito-atloid articulation, the space between the velum and the posterior surface of the pharynx is lessened, and the pillars being also slackened the velum can be more fully raised. He should also practise forcible expulsion of air with an attempt to shut off the nasal current, as is done in whistling, blowing wind instruments &c. It is, I think, by means of such definite exercises, which the patient can practise, rather than by relying entirely on attention to the articulation, that one may hope to bring about increased mobility of the new palate, and thus enable the patient to speak distinctly by shutting off the nasal current at the right moment.

In the course of the examination of various palates I was further led to notice the movements of the velum under other conditions which are unconnected with cleft palate. One of these is the act of snoring.

It is, I believe, usually thought that snoring is due to a vibration of the soft palate as a whole owing to a loss of muscular tone during sleep. Now many people can snore at will and if the palate be carefully examined during the act—that is, during the time that the inspiratory current is rushing over the palate from the mouth—it will be seen that the only part which vibrates is the thin membrane at the free edge—the continuation, in fact, of the posterior pillars on either side, which merges in the uvula. (See Fig. 3, A.) This free edge vibrates so as to become blurred and indistinct to the eye of the observer, whilst the rest of the palate remains still; if the snoring be violent the uvula to which this edge is

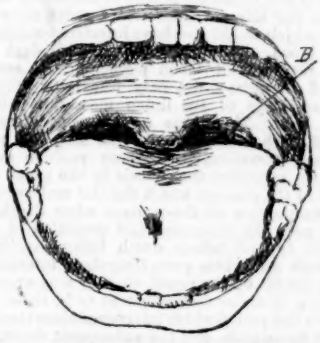
attached is also frequently thrown into coarse vibrations. (See Fig. 4, B). It will also be found that there is a certain degree of tension of the pillars which favours snoring; thus if the tongue be depressed, this tightens the arch and stops snoring and it is far easier to snore with the chin flexed on the sternum than with the head extended—in fact, whilst it is

FIG. 3.

Palate at rest. (From photo.)

possible to snore through the nose with the mouth closed and the head flexed, it is very difficult to do so with the head extended. It is also possible that in the case of inveterate snorers relief might be obtained by snipping off this extreme thin edge of mucous membrane and shortening the uvula so as to thicken the palate margin without damaging the articu-

FIG. 4.



Palate during snoring. (From photo.)

lation or interfering with the power of shutting off the nasal cavity.

N.B.—I am much indebted to Dr. Stewart for help in taking the photographs.

Leicester.

PLUGGED SUBCLAVIAN AND INNOMINATE VEINS FROM INJURY; SUDDEN DEATH FROM PLUGGING OF PULMONARY ARTERY.[1]

BY SIR GEORGE HUMPHRY, M.D. CANTAB., F.R.C.S. ENG., F.R.S.,
PROFESSOR OF SURGERY AT CAMBRIDGE UNIVERSITY.

A HEALTHY-LOOKING, rather tall woman aged forty-eight came to Addenbrooke's Hospital on Nov. 14th, 1892, and said that three or four days previously, whilst lifting a pail of water with her left hand, she felt something "give" at the lower part of her neck. She had suffered a good deal of pain since. She looked ill. There was a firm, uneven lump about the size of a walnut under the left sterno-cleido-mastoid muscle, rising above the level of the clavicle, fixed and not very tender. The external jugular vein was enlarged, firm, knotted and tender, and was evidently plugged with solid clot. The veins in front of the left pectoral muscle were large. The pulse in the left radial artery was quite distinct, though rather smaller than on the opposite side. She was admitted to the hospital and passed a restless and painful night, with high temperature. Some fulness of the arm, forearm and shoulder was then perceived, but none of the hand. The left and right carotids could be felt pulsating and there was no tenderness about them, or, apparently, about the internal jugular veins. There was unnatural firmness, with marked pulsation, immediately above the sternum suggestive of aneurysm of the aorta; and this view seemed to derive confirmation from a distinct bruit which was audible over the region of the ascending aorta. She lay flat on her back and was disinclined to move or to be disturbed. She became somewhat easier and rather more restful, the lump at the lower part of the neck became rather more defined and smaller, and the swelling of the arm and forearm increased a little, but the hand did not increase in size. On Nov. 18th she suddenly died, before the house physician, who was summoned by the nurse and came at once, reached the bed.

Necropsy.—Just beneath the clavicle the subclavian vein was found to be contracted, thickened and blocked by colourless adherent clot. Here evidently had been the seat of injury, the clavicle having been pressed down upon the vein by the weight of the pail she had endeavoured to lift. From this point the clot spread, distending the remainder of the subclavian and the innominate veins. The clot was parti-coloured, smooth on the surface and a little adherent to the walls of the vein. At the terminal part, where it approached the vena cava, it was rather softer and darker than elsewhere and was evidently more recent. The areolar tissue around the subclavian vein was œdematous and somewhat solidified. The external jugular was in a condition similar to that of the subclavian, but both internal jugular veins and the vena cava were natural. The aorta was rather dilated, its lining being smooth, and there was no marked disease of its coats; the semilunar valves and the heart were healthy; there were no abnormal clots in the cavities of the latter; the pulmonary artery at its division and in its large branches was choked and distended by large parti-coloured, non-adherent or slightly adherent clots.

Remarks.—The case is of interest as being an example of plugging of a vein from injury, the coats of the vessel having doubtless been damaged by the dragging down of the clavicle upon it. It is rather to be wondered at that the same condition has not oftener followed the rough application of tourniquets or Esmarch's band, by which, one would think, the coats of the vessels must not infrequently be bruised; but they seem to be very tolerant of such appliances—as, for instance, when the tourniquet is applied, reapplied and continued for some time at the same spot in the treatment of aneurysm. I do not remember an instance in which vein-plugging has been so caused, but I have seen it follow what appeared to be a strain of the vessel in violent exertion. For instance, a tall, strong young man, after hurdle-jumping—each spring in which involves great muscular effort and which is attended with prolonged stoppage of respiration, and during which there must therefore be much venous distension, with stretching of the walls of the vessels—suffered severe plugging of the vena cava and iliac veins, attended with great pain, some hæmaturia and swelling of the lower limbs and the lower part of the trunk, the effect lasting for a long time—leaving, indeed, permanent interference with the venous circulation. Vein plugging is most frequent in varix, where the walls of the vessels are stretched transversely and longitudinally, the epithelial lining being necessarily more or less interfered with and the blood-current slowed. Gouty and other disordered general conditions also play their part, as inducing causes. In the few cases of plugging caused by injury to the vessel wall which I have seen the result has not been so good, the current of blood being more slowly, if at all, restored. Yet in some of the instances in which I had tied the vein for the relief of varix the current of blood was found, in some way or other, to have been re-established. In what manner this was effected I never had an opportunity of ascertaining. The affection (vein plugging) is notified by pain and tenderness of the vein and some surrounding inflammatory condition which usually involves the skin. Commonly it soon subsides,

[1] A paper read at the meeting of the Cambridge Medical Society.

the blood-clot becomes absorbed and the current through the vein is restored, the same condition being not infrequently repeated several times in the same part with a similar result. The varicose plexuses about the anus and the prostate are also, as we know, liable to blood-clotting. The affection is not often attended with pyæmic or other symptoms of blood-poisoning. Vein plugging is also not infrequent after labours, towards the end of lingering, wasting illnesses, and after fever, inflammatory affections of the lungs and other similar conditions. In all other states there is probably a lowered condition of that property of the blood, whatever it be, whereby coagulation is prevented, and also a lowered condition of the lining membrane of the venous canals, the healthy nature of which contributes to the maintenance of the fluidity of the blood in them. The plugging most frequently occurs in the lower limbs where the blood-flow is most sluggish and the limb-movements least active in the bedridden person, and it begins often at or about the confluence of veins in the upper part of the thigh, where the valves are most numerous and afford extensive superficies favourable for blood-settling. I have found small incipient clots located in the spaces between the valves and the vessel wall, having formed in the little pools of blood, which had been comparatively at rest in consequence of the feeble current having failed to disturb them, partly by reason of its being insufficient to force the valves fully open and partly by reason of the vein being a little dilated. These little sheltered clots form nuclei from which the clotting spreads and chokes up the adjacent vessels. The same thing occasionally occurs about the confluence of the subclavian and jugular veins, and it may take place in other parts. The symptoms—the œdema of the limb and the tenderness and pain in the region of the affected vein—are sufficiently well known, as is also the condition of the vessel with the evidences of inflammation on its exterior and the stretching of its walls by firm, dryish, more or less dirty, mottled, perhaps softening, and more or less adherent clots, the softened lining of the vessel being sometimes easily detached. The clots usually terminate in rounded or cone-shaped ends near the junction with some large vessel. So angry and threatening of further evil are the appearances that it is difficult to believe that the clots could be absorbed and complete recovery take place. The results, however, show this not infrequently to be the case, and we may hold out to our patients good hope of it even in severe cases. I knew the case of a man in whom the large veins of both lower limbs were, on three separate occasions, during the early stages of recovery from severe illnesses (pleurisy, typhoid fever and pneumonia), plugged and inflamed in nearly their whole extent. Yet, to all appearance, they quite recovered and the blood course through them became as free as ever. Many years ago I took some trouble to investigate this matter by examining the veins in cases in which the disease had occurred and found that the clots became reduced to threads or were quite removed, and the lining of the vessel was ultimately restored to a natural condition, a slight orange-coloured stain upon it being perhaps the last trace of the disease.

The clotting first begins next the vessel wall, forming there a tubular fibrinous lining which is added to on the interior till the lumen of the vessel is blocked, the middle part of the clot being usually softer and darker than the exterior or first-formed layer. The well-known liability to the occurrence of fatal plugging of the pulmonary artery in these cases is, I think, greatest when the venous thrombosis is at or near the junction of a large vessel. Soft, recently formed portions of the clot projecting into the latter become detached and are washed along the blood current till they are caught upon the edges of the septa between the primary divisions of the pulmonary artery and are lodged crosswise upon these, and thus form the nuclei for further coagulation there. This appears to have occurred in the woman whose case I have described, a portion of the dark, soft, recently formed clots in the innominate vein having been carried into the pulmonary artery and the embolus, resembling the clot formed about it, would not be easily distinguished from it. The suddenness of death in some of these cases is remarkable and not easily explained. It may result from a sudden movement of the patient after a period of quiescence, during which accession to the clot would have taken place, or to some sudden shifting of the position of the whole or of a part of the clot. The first instance of the kind I saw was in a woman who, when standing up to make tea three weeks after an easy and perfectly natural labour and apparently good recovery, fell and quickly died. The primary branches of the pulmonary artery were fully plugged with mottled and scarcely adherent clots. Whether they had originated in any other part of the venous system, which is probable, was not ascertained. In some cases the fatal event has been preceded by premonitory attacks of shortness of breath and faintings; and in such cases the appearances of the clots and partial adhesions to the pulmonary artery prove the more gradual production of the obstructing masses. Such cases indicate, too, the possibility of recovery which, as is well known, has taken place in several instances in which the symptoms of the affection had been well marked. In a man who died during a second attack of thrombosis in the lower limbs, attended with symptoms of thrombosis of the pulmonary artery on each occasion, I found in the femoral veins, in addition to the more recent plugs, the evidences of former thrombi afforded by tough fibrinous white bands and strings, adherent at their ends or along their surfaces, and yellowish stains in the coats of the vessels, together with some coarseness and toughness of the investing areolar tissue. The right pulmonary artery was nearly filled by a firm, yellowish white, fibrinous clot, which was for the most part loosely adherent to the vessel walls; but in some places it was so firmly attached that the lining membrane was torn in the attempts to detach it. In the smaller branches of the artery the clot was mottled with red and white patches, and was less adherent; but it was firm and dry, and filled the canals. The lower lobe of the lung was hepatised, and there was purulent fluid in the pleural cavity. In the left pulmonary artery the trunk and branches were occupied by a still firmer and older clot, which was white and quite closely adherent to the sides of the vessel, so as to form part of its walls, and the smooth surface of the clot was continuous with that of the artery. Though the new structure stood out in strong relief and occupied a considerable space of the canal, there was still enough room for a large column of blood. The ramifications of the organised clot in the secondary and tertiary branches of the artery were closely adherent to the sides of the vessel, forming mere ridge-like projections which would not have interfered much with the current of blood. They were marked with dark lines and spots, the remnants of blood pigments. In some of the branches of the artery the only remaining traces of the clot were stainings of the lining membrane with a delicate dark hue. There was no apparent disease of the vessel itself. The lower lobe of the lung was pneumonic. In this case, therefore, there was positive evidence of recovery from extensive thrombosis in the great pulmonary vessels and of the changes which the clot underwent.

In the examination of these cases after death it is important to note the character and condition of the clots, those which formed before death being usually mottled, with the dark and white parts irregularly intermixed; they nearly or quite fill up the vessel, or they may even distend it and are often more or less adherent to it, these characters varying with the period which intervened since the commencement of the thrombosis and the subsequent death. The clots which form after death are, on the contrary—inasmuch as they result simply from the coagulation of the blood which was present in the vessels at the time of death—smaller and do not fill, and still less distend, the vessels. They are smooth on the surface, are not adherent to the vessel wall and are uniformly dark, or, as is more common, they show the effect of a regular subsidence of the red corpuscles, leaving the upper part of the clot—that which lay uppermost after death—of a pale yellow or buff colour, and the line of demarcation between the upper buff and the lower coloured parts of the clot is in some remarkably well defined. This last feature may be often well seen in the post-mortem coagula found in the right cavities of the heart.

In the case with which I commenced some interest attaches to the clinical features, inasmuch as the area of pulsation above the sternum and the bruit which was heard over it gave some suspicion of aneurysm of the aorta. The nature of the case was, however, sufficiently marked by the history, by the obvious plugging of the external jugular vein, indicative of plugging of the adjacent veins, and by the swelling of the shoulder and arm. The area of pulsation was extended by the contiguous solid mass of plugged and distended veins; and the bruit, which originated in slight dilatation of the aorta which was not sufficient to amount to an aneurysmal condition, was intensified by the same cause.

Cambridge.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL AND THERAPEUTICAL.

A CASE OF MYXŒDEMA TREATED WITH THYROID EXTRACT.

BY GEORGE ELAM, M.B., B.S. DURH., M.R.C.S. ENG., L.R.C.P. LOND.

THE case of a lady normally of considerable culture, aged fifty-three, first came under my notice in July, 1892, when I joined my partner Mr. Harbord, who had had her under observation for over four years. He had been successful in keeping her alive and—*pace* the myxœdema—in a fair state of health. At the time mentioned she showed very markedly the ordinary signs of the disease, with great hebetude of mind and body, though, as Mr. Harbord told me, she had greatly improved during the preceding six months. Her cheques, for instance, were so illegible as to require initialing by the bank manager before being cleared.

The treatment was general, with exhibition of jaborandi. The suggestion of treatment by hypodermic injection of thyroid juice was abandoned owing to the probable mental effect, but, though expected "to get through the autumn possibly," she passed the winter most comfortably, the cold weather not appearing to harm her, as one would have expected. On Feb. 20th, 1893, we ordered one drachm of thyroid extract to be given in the course of every week and twenty drops in her beef-tea every other morning, the patient to be kept in entire ignorance of the administration of it. On March 20th she complained of her head being dirty, this being caused by the sprouting of the hair. The obesity was markedly less and when I saw her about this date, for the first time since the commencement of the treatment, I actually failed to recognise her for the moment, so great was the change. She was slim instead of stout and her speech and eyes were bright. Since February she has taken the dose regularly (and unknowingly) and the improvement is continuous. From being an invalid confined to one room she is now (August) enjoying life in the country, walking regularly and appreciating a work on Egyptology, thus showing complete recuperation of brain power. I had a long and well-written letter from her only last week telling of her doings, which, when contrasted with the ill-spelt and often obscure sentences of a year ago, speaks for itself. The hair is fully an inch long and very dark. She complains of fugitive pains and of soreness over the site of the thyroid gland, with excessive ropy and sticky discharge from the mouth. I venture to place this case before the readers of THE LANCET, acknowledging our obligations to Dr. George Murray for the line of treatment adopted and asking for information on the following points: (1) How long must the treatment continue? (2) Are the pains usual and will they cease? (3) What is the cause of the discomfort over the site of the thyroid gland? and (4) Can the discharge from the mouth be alleviated?

Upper Montague-street, Russell-square, W.C.

CASE OF PRESENTATION OF FUNIS; SUCCESSFUL REPOSITION.

BY J. P. TILDESLEY, M.R.C.S. ENG., L.R.C.P. LOND.

I VENTURE to record the following case as being one of interest (1) from the rarity of its occurrence—1 in 245 deliveries (Churchill) and 1 in 254 (Scanzoni)—and (2) from the still greater rarity of a successful result as regards the life of the child. I was called a few days ago to see a married woman aged thirty-five, multipara, who had four children living, the previous labours having been instrumental. On abdominal palpation I found the axis of the child to be longitudinal, the breech being felt at the fundus and the back directed to the right. On vaginal examination the os was found to be fully dilated, the membranes were unruptured and a knuckle of funis was felt in front of the presenting part. The patient was placed in Sim's semi-prone position on the opposite side to that on which the cord had descended. She was kept in this position and on examining her again after two or three pains the funis had receded. She was now fully anæsthetised, and the membranes were ruptured, the result, unfortunately, being a sudden gush of liquor amnii, leading to a prolapse of the cord. Pulsation was only very feebly distinguishable. Still maintaining the semi-prone posture, with the hips elevated, the hand was introduced into the vagina and the loop of the cord was pushed up by the fingers above the head, the external hand then making pressure on the fundus. Simpson's forceps were applied and the head was rapidly delivered, the child being extracted in a condition of grave asphyxia. Restoration was attempted by alternately dipping in hot and cold water, but without success. The air passages being cleared of contained fluid by suction, Schultze's method was employed and was rapidly effectual in restoring animation.

Remarks.—The following points are worth noting: (1) The absence of any pelvic deformity or any malposition of the fœtus, an unusually long cord being the only recognisable cause of the prolapse; (2) the great ease with which reposition was effected without resorting to the genu-pectoral position; and (3) the advisability of rapid delivery and repeated attempts at restoration, even though pulsation may have apparently ceased in the funis.

Brewood.

AN OBSERVATION ON THE AMOUNT OF URIC ACID ELIMINATED DURING AN ATTACK OF GOUT.

BY J. LIDDELL, M.D.,
PHYSICIAN TO THE HARROGATE ROYAL BATH HOSPITAL.

THAT there is a diminution in the quantity of uric acid eliminated at the beginning of an attack of gout is the opinion generally held. Recently an observation was made by me under unique conditions which supports this view. The patient upon whom the observation was made was aged forty-five and had suffered for several years from occasional attacks of acute gout. On June 15th last he was admitted into the Harrogate Royal Bath Hospital. For the purpose of ascertaining the action of the mineral waters upon the excretion of uric acid he was given the same kind and the same quantity of food each day. He was kept in bed. His urine was measured daily and the uric acid was estimated by Haycraft's method. On the evening of June 18th, before he was given the mineral waters, he had a sharp attack of gout in his right little finger. I found that the uric acid eliminated on that day was less than it had been on the previous two days. The following were the quantities of urine and uric acid:—

	Urine in cubic centimetres.		Uric acid in grammes.
June 15 (admitted)	—	.....	—
,, 16	940	.....	0·675
,, 17	705	.....	0·615
,, 18	525	.....	0·493*
,, 19	625	.....	0·533

* Attack of gout.

The interest lies in the circumstance that the patient was taking exactly the same kind and the same quantity of food both before and during the attack and therefore the lessened elimination of uric acid was not due to any alteration in diet.

Harrogate.

MEDICAL MAGISTRATE.—The Chancellor of the Duchy of Lancaster has placed Dr. A. Emrys Jones on the commission of the peace for the city of Manchester.

MEDICAL DEFENCE UNION, LIMITED.—A council meeting was held at 429, Strand, London, W.C., on Wednesday, Aug. 23rd, at 4 P.M., Mr. Victor Horsley being in the chair. Thirteen new members were accepted and one was rejected. It was resolved to report a dentist to the General Medical Council for assuming the title of "Dr." Authority was given to report three medical men to the General Medical Council for covering unqualified practitioners. Advice was given to several members in questions involving difficulties in their practices. Several matters of minor moment were dealt with.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Procemium.

UNIVERSITY COLLEGE HOSPITAL.

EXTENSIVE LOCALISED PERITONEAL ABSCESS; ABDOMEN FLUSHED OUT AND WOUNDS PERMANENTLY CLOSED; RAPID RECOVERY.

(Under the care of Mr. BILTON POLLARD.)

THE surgical treatment of peritonitis has received much attention during recent years and we are still engaged in analysing and comparing cases in order that a more definite and satisfactory conclusion may be arrived at concerning the varieties of inflammation of the peritoneum which may safely be left alone to recover without operation and the varieties in which it is necessary to operate in order to avert a speedy death. We are indebted to Dr. Cullingworth for a recent and important contribution to the subject of inflammations commencing in the female pelvis, and some agreement has been come to regarding the treatment of inflammations due to perforations of the intestines, tuberculous deposit in the peritoneum and traumatic peritonitis. There are, however, a number of cases which present themselves in which the nature and course of the inflammation are quite unknown, and in which, as in this case before the pointing of the abscess, it may be difficult to say that the fluid is purulent. Mr. Pollard draws attention in his case to the absence of evidence as to cause and the important fact that although of large dimensions the cavity was apparently localised. The statistics collected by Professor Krecke of Moscow with regard to the results of operative treatment in purulent peritonitis are very interesting as the origin of the mischief was determined in all but 18 cases, of which 9 recovered. The majority of the remaining 101 cases resulted from perforation, 36 after perforation of the appendix, 12 during typhoid fever with 5 successes, and 12 from gangrene and other causes implicating the bowel; of the cases with gangrene only one recovered, and of the 8 others only 3 recovered. Operation saved 5 out of 13 cases with puerperal peritonitis. In traumatic cases, 3 of punctured wound and one of gunshot recovered; but of contusions only 3 of 8 cases recovered. Altogether there were 51 recoveries and 63 deaths.

A girl aged six years was admitted to University College Hospital on April 4th of this year in an extremely feeble and emaciated state, with a greatly distended abdomen and discharge of pus from the umbilicus. There was nothing in the family history which appeared to bear on the case. The child herself had always been healthy, her only previous illness having been measles. Five weeks before admission the child returned from school in her usual health and had her tea. She was quite well when she went to bed, but at 1 A.M. on the following morning she awoke suffering from sickness and diarrhœa. The illness was attributed to over-eating. After about ten days the diarrhœa ceased and constipation set in. During her illness the child had kept her legs drawn up. Her vomit had never been stercoraceous. Her abdomen had become much swollen, and on the day before her admission an abscess pointed at her umbilicus and burst. On admission the child appeared to be in great pain. Her face was pale and pinched; her pulse was 120 to the minute, small and compressible; and her tongue was moist and furred. Her abdomen was greatly swollen and was very tender, and pressure upon it caused thin pus to flow from the sinus at the umbilicus. The flanks and the lower half of the abdomen were non-resonant. The child was anæsthetised with gas and ether, and an operation was commenced at 1.15 P.M. on April 4th. A probe was passed into the sinus and it travelled readily on each side towards the linea semilunaris. An incision about three inches long was made in the right linea semilunaris and the abdomen was explored with the finger. A similar incision was then made on the other side. The cavity of the abscess was found to extend on the right side over the liver to the under surface of the diaphragm, and on the left side as far as the spleen. Laterally it reached the flanks and the iliac fossæ and downwards it extended into the pelvis. In front it was bounded by the anterior abdominal wall and behind by the intestines, which were matted together with moderate firmness, with the exception of one coil, which passed across the pelvis to an attachment to the bladder. The cavity was flushed out with several pints of boric acid lotion. The temperature was 100° F. Several large pieces of lymph were peeled off the walls of the cavity. The latter was then flushed out with a sublimate lotion (1 in 4000) and the cavity was thoroughly dried. The umbilical sinus was scraped and scrubbed and its edges were pared. The operation wounds were closed and a dressing of cyanide gauze and sal alembroth wool was applied. The child was ordered two drachms of brandy every four hours, and milk diluted with an equal volume of barley water was to be given by the mouth every two hours. The temperature rose to 102·8° F. on the day after the operation. By the following day it had fallen to 99·4° F. During the next few days it gradually fell, and on and after the seventh day it was about normal. The child was at once relieved of pain and she made an uninterrupted recovery. On the sixth day three ounces of prepared food were given every six hours; on the thirteenth day pounded boiled sole and "typhoid" bread-and-milk were allowed; on the eighteenth day boiled sole and custard pudding were given; and on the twenty-first day she had minced meat. The deep stitches were removed on the eighth day and the superficial ones on the tenth. No opium was given. The bowels acted regularly. The child rapidly gained flesh and strength. She was allowed to get up on the seventeenth day and on the twenty-second day she was discharged. She came to the hospital to show herself about the end of July, when she was fat and strong. The cicatrices were firm and the abdomen appeared to be in every way normal.

Remarks by Mr. BILTON POLLARD.—The cause of the peritonitis in this case was not discovered. There were no tubercles. The pus was not offensive and there was no other evidence of perforation of the bowel. Whether it had resulted from the rupture of an abscess in a mesenteric gland or whether the peritonitis was really primary there was no evidence upon which to decide. The extent of the abscess cavity, which was almost coextensive with that of the peritoneum, might readily suggest the name "general peritonitis" as being applicable to such a case as this one; but I wish to insist that there is a vast difference between such a case as the one now reported and a real case of general peritonitis. In the latter case the inflammation extends everywhere, between all the coils of the intestine; but in this one, although the pus reached everywhere else, the intestinal coils were not uniformly bathed by it, as they were almost all matted together and formed the posterior boundary of the abscess. I think that it is important to insist upon this point, for I am inclined to believe that many cases of so-called general peritonitis, which have recovered after washing out the peritoneal cavity, have really been extensive, though localised, abscesses in that cavity. I myself have never succeeded and I have never seen anyone else succeed in curing what I consider to be general peritonitis by washing out the abdomen. This case is a good illustration of the completeness with which such a large cavity may be cleansed by one thorough washing, for the entire cavity healed at once without any reaccumulation of pus.

COLNEY HATCH ASYLUM.

FOREIGN BODY IN THE ABDOMEN; PERFORATION OF THE ABDOMINAL WALL; DEATH; NECROPSY.

(Under the care of Mr. E. ROUSE ROUSE.)

THE records of our lunatic asylums could furnish accounts of many interesting cases in which foreign bodies of different kinds and varied shapes have been swallowed by patients without any serious result following. But when larger articles—such as knives, spoons or forks—are swallowed the consequences are usually fatal from perforation of the stomach or some other part of the alimentary tract and consequent peritonitis. It is, therefore, advisable that an attempt be made to remove such bodies by operation as soon as possible after they have entered the stomach; it is very rare to find them safely making their way out again through the abdominal or thoracic parieties without surgical assistance, and the possibility of such a termination cannot be considered as a plea for non-interference. The risk of such an operation is very slight as compared with the risks due to the presence of the foreign body. We have recently given in THE LANCET examples of the successful removal of these bodies both from

the stomach and intestine. As examples published during recent years of the perforation of the digestive tract by the larger foreign bodies from within and their appearance on the surface of the trunk we may allude to a case under the care of Dr. Witte, who removed a four-pronged spoon-handled fork, seven inches and a half long and one inch wide across the prongs, from the stomach three (?) months after it had been swallowed and when it had commenced to perforate the abdominal wall. Dr. Hashimoto has recorded the case of a woman who swallowed a tooth-brush made of wood and as thick as an ordinary penholder, in May, 1872. In March, 1873, an abscess opened in the epigastrium and the broken end of the brush extruded; as much as possible was cut off by the surgeon in attendance. The wound healed, but in August, 1886, reopened, leaving fistulæ. In October, 1888, the remainder of the brush was removed by Dr. Hashimoto by incision along these fistulæ and the patient recovered. Dr. Bradford has related the case of a child taken to a surgeon with the point of an ordinary shawl-pin which had been swallowed protruding through the wall of the abdomen. The pin was pulled out firmly and cut off close to the skin, and the head was passed per anum two days later. We have also published in THE LANCET[1] the notes of a case, under the care of Dr. Lowson, in which gastrotomy was performed for the removal of a skewer seven inches and a half long, connected transversely with a piece of clay pipe two inches and a half in length. The skewer had penetrated the thoracic wall, projecting some distance, but owing to its connexion with the piece of clay pipe could not be drawn out. The patient recovered.

A woman of fair physique, aged sixty-four, was admitted into the asylum in 1887 suffering from recurrent melan-

FIG. 1.

cholia, with an actively suicidal history, having before and since her admission made several attempts on her life. Her mental and bodily condition had varied from time to time, but she was always much more actively suicidal during her recurrent attacks of depression and especially showed an inclination to strangle herself and to swallow foreign bodies. On May 16th of this year attention was called to a swelling the patient had in her abdomen, which was situated about two inches below and to the left of the umbilicus; the swelling was quite immovable, firm, hard and presented a sharp edge beneath the abdominal wall. As it did not resemble any ordinary tumour, as she had made attempts to swallow foreign bodies previously to this date, and as the swelling itself felt like a foreign body, she was questioned and finally she confessed that about three weeks previously she had swallowed one of the ordinary iron teaspoons which are provided for the patients. This, of course, made the diagnosis fairly clear and then the question arose as to where the foreign body was situated, this being made much more difficult by the patient having no symptoms except of slight pain in the region of the tumour, and that only when the tumour was handled. The diagnosis as to the cause of the tumour being fairly clear, she was put to bed; she was placed on a suitable diet and she was given opium in the form of a pill three times a day. It was for a time determined not to interfere surgically. However, as the foreign body did not move onward, or seem likely to move, it was suggested to the friends that an operation should be performed, but this they would not allow, and consequently nothing remained but to see what nature would do. The patient herself was in much the same state for the next few weeks, having no symptoms of obstruction or peritonitis, but an alteration took place in the tumour itself, the skin over it becoming red and inflamed and the surrounding tissues hard and brawny, and then she had a slight rise of temperature, owing no doubt to the inflammatory process which was going on. On May 30th the abdominal wall suddenly gave way and the handle of a spoon presented itself and there was at the same time a free discharge of pus. The patient had no serious symptoms after this and her temperature gradually fell to nearly normal (99·2° F.). On inspection the handle of the spoon was seen to be presenting for about three inches through the abdominal wound and there was a free discharge of pus; but for this she appeared to be in fair health. As the friends still refused to allow any operative interference the patient had to be watched to see what would happen and of course the passage which the spoon had made for itself daily became tougher and more resisting, and thus prevented the spoon from being pulled out as far as in the earlier stage. The case remained much the same for about another three weeks, when it was proposed that, as the friends would not consent to an operation, an attempt should be made to dilate the passage through which the spoon had perforated, and thus to render possible the withdrawal of the whole spoon. Great difficulty was experienced in dilating owing to the thickening which had taken place, and there appeared to be what one might call an internal ring preventing the passage of the bowl of the spoon. As this process was both a painful and a tedious one, and as there now seemed to be little risk of a complication, it was determined to give an anæsthetic and to forcibly dilate the opening and to extract the spoon.

FIG. 2.

Dr. Seward and Mr. Shaw having seen the case with Mr. Rouse, it was agreed that forcible dilatation under an anæsthetic should be tried, which Mr. Rouse did by means of a large pair of dressing forceps, and the spoon was successfully removed. This was effected on July 20th, just ten weeks after the swelling was first noticed. Since the removal of the spoon the patient's mental symptoms had been much more pronounced. She had little sleep without the aid of narcotics and nourishment was taken very sparingly. The wound itself looked healthy and there was a free discharge of fluid contents (partially digested food) through the wound. No complication in the abdomen arose and her temperature gradually fell to normal. On July 26th—that is, exactly six days after the removal of the spoon—she suddenly became collapsed without any apparent cause, and gradually sank and died on the morning of the 27th.

Remarks by Mr. ROUSE.—The necropsy was conducted twenty-four hours after death. The body was found to be fairly well nourished. Post-mortem rigidity was well marked. In the thorax the pleuræ and cavities were normal, as were also the lungs, excepting for slight emphysema. The heart showed dilatation and hypertrophy of the left ventricle, with extensive atheroma of the aortic valves and the first part of the aorta, but otherwise it was healthy. There was no excess of fluid in the abdominal cavity. The liver, spleen, pancreas and kidneys were healthy. The large intestine at the junction of the transverse with the descending colon was firmly adherent to the parietes, and when a probe was passed through the opening in the abdominal wall it could be felt in the gut, and this no doubt was the position which the spoon was in before its removal. There were no signs of peritonitis about any part of the intestine, which itself was quite healthy, with the exception of the perforation through the gut. The case, though terminating disappointingly, has many features of interest, not only from its extreme rarity, but from the patient having had no symptoms except of slight pain throughout the whole case, though in lunatics this is not at all a rare occurrence;

[1] THE LANCET, Jan. 31st, 1891.

also her sudden collapse and death are difficult to explain, unless one falls back on her feeble heart and naturally somewhat exhausted condition. The engravings are from photographs. The length of the spoon was four inches and a half and its width at the bowl one inch. One was taken whilst the spoon was *in situ*, and the other after its removal, by my colleague Mr. Shaw.

Reviews and Notices of Books.

A Text-book of the Theory and Practice of Medicine. By American Teachers. Edited by WILLIAM PEPPER, M.D., LL.D. In 2 Vols. Vol. I. Philadelphia: W. B. Saunders. 1893.

IN point of literary activity and in the production of treatises on medicine and surgery, the American school may claim a foremost place. We owe to them, indeed, a deep debt of gratitude for their enterprise and industry, which have enabled them to publish many works of extended scope. A few years since, under the editorship of Dr. William Pepper, there appeared a "System of Medicine," which may be said to have been the lineal successor to our own Reynolds' "System." It is a work of lasting value and its contributions represented the views of the leaders of American medicine. The handsome volume before us, produced under the same distinguished auspices, is, as its name implies, intended for daily use in the study rather than for the shelves of the reference library. It is a text-book of a high class indeed, and one to which several experienced teachers of medicine have contributed—namely, Dr. John S. Billings, who furnishes the opening article on Hygiene; Dr. W. Pepper and Dr. James T. Whittaker, who between them supply all the articles on the Acute Specific Fevers, the latter also writing on Anthrax, Actinomycosis, Glanders and Hydrophobia; Dr. Gilmour Thompson, who writes on Syphilis, Scrofula and Malaria; and Dr. H. C. Wood and Dr. W. Osler, who share the chapters on Diseases of the Nervous System. These are the writers and their topics in this volume, and so excellent is the whole, so thoroughly practical and useful as well as so highly scientific, that the second volume will be anticipated with pleasure.

Without attempting a full critical analysis of these writings, we may here note some of the features of the work which show how thoroughly it is abreast of modern research. Influenza is defined as being "an acute microbic fever, moderately contagious," Dr. Pepper fully accepting the discovery of a bacillus by Pfeiffer and Canon as being conclusive. The whole article teems with experiences of the late pandemic visitation, showing how much knowledge has been advanced by it, and also how great a scourge the disease has been. There is a brief description of "Mountain Fever," a disease which seems to be infectious, and which has been observed in the Rocky Mountains. Its duration is from two to four weeks, and the writer inclines to the view that it is in fact typhoid fever, presumably modified by the effect of climate and from its being sometimes associated with malarial poisoning. "It is clear," he adds, "that no adequate reason exists to longer continue a separate description of a disease which cannot be shown to possess distinctive features." The article on Small-pox by Dr. Whittaker is excellent, and is followed by one on Vaccination from the same pen, in which the statistical evidence in support of the practice is presented with clearness and precision. In speaking of the nature of cow-pox, Dr. Whittaker points out that "there are but two chief forms of small-pox—namely, human-pox and sheep-pox," and that "cow-pox is in its essence variola vera. It is variola modified in the body of the cow. If vaccinia be but an attenuated or modified variola, its protective action ceases to be a mystery. It protects by the immunity of previous attack. It protects by the immunity of inoculation—i.e., variolation—for vaccination is variolation with virus robbed only of its virulence." Dr. Gilmour Thompson, in the article on Diphtheria, argues that if the Klebs-Loeffler bacillus is to be accepted as the *vera causa* of the disease then membranous croup must be separated from it; but we believe that this organism has been found in cases of primary membranous inflammation of the larynx. The same writer's article on Malarial Fevers gives descriptions and illustrations of the organisms which were discovered by Laveran—the plasmodium malaria—and the various types of intermittent and remittent forms are fully described. Dr. Whittaker's articles on Anthrax and Hydrophobia are fully up to date; and he also gives a far more detailed account of Trichinosis than is usually to be found in the text-books. Of the articles on the Diseases of the Nervous System we can only say that they are such as may be expected from their writers, Dr. Wood dealing with mental and functional disorders and with organic diseases of the spinal cord, and Dr. Osler with organic diseases of the brain, of the nerves and trophic disorders, under which is included a description of acromegaly. The book will doubtless become a favourite with those who are studying for medical degrees; it is compendious and exact, it keeps strictly within the limits prescribed, and it is almost destitute of bibliographical references; still it often lacks that expression of personal experience which causes some of our best text-books to be so much appreciated.

The Climate of Rome and the Roman Malaria. By Professor TOMMASI-CRUDELI. Translated from the Italian by CHARLES CRAMOND DICK. London: J. & A. Churchill. 1892.

REVOLUTIONS in medical doctrine find no apter illustration than the various etiologies of malaria which have been promulgated during the last thirty years. In 1866 an able American physician, Salisbury, traced the disease to minute vegetable cellules of the palmella species, which he had constantly detected in the urine and perspiration of malarious subjects in Ohio and Mississippi. The year after, a German, Binz, discovered bacteria in the blood of such patients, and reproduced the disease in animals by injecting into their veins putrescent matter of vegetable origin. In 1869 a Roman, Balestra, ascribed to an alga found in the Pomptine marshes the pathogenic agent of the fever in question; and a few years later his compatriots Lanzi and Terrigi, after injecting into the circulation of animals some water from the *stagna* at Ostia, connected the etiology of malaria with a brownish bacterium which communicated its peculiar and characteristic colour to the human patient. In 1878 a Swede, Ekelund, gave the name of "limnophysalis hyalina" to a microbe which he had often found in swampy places, and the year following a Prussian, Klebs, and a Tuscan, Tommasi-Crudeli, confirming the conclusions of Lanzi and Terrigi, came upon the bacillus malariæ, as they called it, which they announced as being the true *causa causans* of the malarial poison. Their discovery, however, did not long remain unchallenged, and in 1880 Dr. Guido Baccelli, Professor of Clinical Medicine in the University of Rome, stated, as the result of 200 special observations, that the so-called bacilli were only shreds of the red corpuscles of the circulation. Later still came the researches of a Frenchman, Laveran, he discovering the cause of malaria to be a parasite of a rather developed order, and on showing to Baccelli, in the Roman clinique, the proofs of his discovery he found the distinguished consultant fully prepared for them. With the microscopic work of Celli and Marchiafava the parasitic origin of the disease derived fresh confirmation, till, with the further researches of Golgi, the Roman school succeeded, by varied and repeated injections of the parasite, in reproducing all the types and stages of the fever. From that point Baccelli

prosecuted the therapeutic side of the question; and, whilst he found that the subcutaneous injection of quinine in cases of pernicious (or aggravated malarial) fever yielded a percentage of from seventeen to eighteen failures, his intravenous injections of the same salt succeeded in nearly every patient.

This brief, and of course imperfect, indication of the present position of the "malaria problem"—in etiology and in treatment—is a necessary preparation to our review of the work before us. In his preface the translator announces that Professor Tommasi-Crudeli himself has revised and corrected the book up to date; but we cannot find that even in September, 1892—the "date" given,—the revision and correction have been at all thorough. The name of Laveran is not even mentioned, and as to the treatment we are still left to the exhibition of quinine by powder or tincture, or of arsenic "administered daily in small doses," or of that popular remedy "the decoction of the whole lemon fruit."

It is no secret that one of the principal attractions at the coming Congress in Rome will be the monograph of its President, Dr. Baccelli, on the Origin, Course and Treatment of Malaria. The whole history of the subject will be passed in review by that accomplished clinician, and an interesting and valuable discussion will arise on his conclusions. Our complaint against the book before us is that it places the reader who may attend the Congress at a distinct disadvantage when the theme Malaria and its Treatment is started in its particular Section. It leaves him, in fact, with little further light than was accessible at the time when the lectures composing it were originally delivered—that is, in 1885.

Whilst with regard to malaria proper the book is by no means up to date, we have nothing but praise for its handling of the climate of Rome. On this subject Dr. Tommasi-Crudeli's careful and keenly scientific observations place us in possession of all that is worth knowing, whether as to the wind-currents, the temperature, the soil, the *flora* and *fauna*, or the water-supply. There could, indeed, be no better illustration of the advance which has been made in climatology during the last half-century than a comparison between Sir James Clark's meritorious treatise on the Roman climate and that of Professor Tommasi-Crudeli. We wish, however, that we could congratulate the Roman pathologist and *savant* on the English dress in which his work appears. At first we thought a translation of a book which, in Italian, is certainly a model of dignified, graceful and exquisitely lucid Tuscan prose, might be a useful aid to the student who wished to master the "lingua Italiana" in its purest form. The translator's version runs fluently enough, but it is often weakly paraphrastic. Misrenderings, moreover, are far too frequent. "Campo" does not mean "camp" in the phrase "Campo di Agrippa," p. 6. It should be translated "park." "Inconveniente" is as erroneously rendered by "inconvenience" as "disgrazia" would be by "disgrace." "Sensation" is incorrectly made the equivalent of "emozione" (p. 13), and classical quotation fares badly at the translator's hands. Scientific terms, too, are not always rendered correctly. Certainly Salisbury never wrote "pamella gemiasma" or Archer "Chtonoblastus aeriginosus."

REPORT OF THE ASYLUMS COMMITTEE TO THE LONDON COUNTY COUNCIL.

THIS report deals with the year ending March 31st, 1893, and it shows that the number of insane persons for whom the county of London is responsible had, on Jan. 1st, 1893, reached 10,835, or an increase of 327 upon the number for the preceding year. This is regarded as being practically a resumption of the old ratio of annual increase, disturbed during the past few years by a variety of causes, more or less exceptional in character. The distribution of these pauper lunatics was as follows: In London asylums, 7951; in other asylums under contract or otherwise, 1586; and in licensed houses, 1298. The committee state that the asylum accommodation of the county, including Claybury, is now deficient to the extent of 260 beds, and that another asylum at least must be provided with due despatch. During the year 1892 no less than 38 male and 69 female patients of seventy years of age and upwards were admitted into their asylums. As it was not within their power to refuse the admission of any persons duly certified they admitted these cases, of whom more than half the number required treatment in an infirmary rather than in an asylum.

The conduct of the large staff, numbering some 1400 persons, has been with few exceptions exceedingly good. Actuated, as they say, by the desire to improve the position of the male and female attendants and the various artisans and workmen as to pay, leave, hours of duty &c., the Committee have made several further concessions to them; and they have negotiated with the Post Office authorities to secure the attendance at each asylum on pay-days of an official to receive from the employés deposits in the Post Office Savings Bank. One subcommittee has been appointed to consider the question of establishing a seaside asylum to be available for patients during their convalescence, and another subcommittee, composed entirely of medical members, has been appointed to consider the appointment of a pathologist for all the asylums. The Committee have had under their consideration the desirability of applying to the Conjoint Medical Boards for the recognition of all the London asylums as teaching hospitals. The Committee give the following explanation of a rise in the weekly sum chargeable for their lunatics: "The County Council in October, 1892, having decided that in consequence of the decision in the case of the Queen *v.* Dolby (High Court of Justice, Queen's Bench Division, June 21st, 1892), rates should in future be paid by the Visiting Committee of the asylums, it accordingly became necessary for us to review our income, and in the result to increase from 9*s.* 4*d.* to 9*s.* 11*d.* the "weekly sum" for expenses of every lunatic confined in our asylums chargeable to London parishes and unions or to the county. The increase of 7*d.* represents the weekly cost per patient of the charging of the rates to the asylums account. The annual parochial rates of the four asylums amount to about £10,000."

Statistical tables are given showing rates of pay &c. for the various grades of officials, dietary and contract prices, and they give much information of a useful description in regard to the cost of maintenance of the different asylums. The four asylums in full working order are Banstead, Cane Hill, Colney Hatch and Hanwell. A fifth, Claybury, is now completed and is in process of occupation.

The following is the distribution of patients through these four huge asylums:

	Male.	Female.	Total.
Banstead...	710	1301	2011
Cane Hill...	852	1101	1953
Colney Hatch... ...	924	1331	2255
Hanwell	769	1151	1920
Total	3255	4884	8139

DEATH FROM CARBONITE FUMES OR NATURAL CAUSES?—Mr. Brighouse, one of the county coroners for Lancashire, has recently held an inquest on a collier who, it was stated, had met with his death from the fumes after the explosion of two shots of carbonite in his working place. The evidence was interesting and conflicting; but the evidence of Mr. Molyneux, who had attended the deceased and, with his assistant (Dr. Griffiths), made a post-mortem examination, showed that the deceased had suffered from pleurisy and effusion, followed by a small abscess in the lung. Mr. Molyneux and his colleague were unable to say that the fumes of carbonite would cause pleurisy. Notwithstanding this, the jury returned the following verdict: "The jury find that deceased came by his death from pleurisy, accelerated by inhaling the fumes of an explosion of carbonite on June 30th whilst in his working place at Norley Colliery; and the jury find that the death of the deceased was through misadventure, and they believe that the fireman inspected the working place after the firing of the second shot." It had been stated in evidence that the fireman did not inspect the place after firing the shots.

THE LANCET.

LONDON: SATURDAY, SEPTEMBER 9, 1893.

THE outbreak of cholera in two of our Humber ports, and notably at Grimsby, has raised the question in the minds of many as to what are our weak points and sources of danger. The better they are known the more likely we are to be able to cope with them. Hence we would briefly note those to which attention is now being directed. Firstly, as to our coast line. It has never been pretended that mild and unrecognised cases of cholera could be absolutely excluded by any other than a rigid system of quarantine, which would exclude at the same time everybody and everything. The contention is that with a properly regulated system of medical inspection we are provided with a means of defence which is superior to any form of quarantine that is practicable. For a port district this means that medical inspection of all vessels which arrive from foreign countries, and at times including our coast traffic also, must be continuously and vigilantly carried out in order to arrest on the waters of the port every case that is suspicious from the point of view of cholera. We do not know yet that this system was in progress at Grimsby before Aug. 2nd, when, as is well known, cholera had already been imported into that port. We wish, however, to emphasise the fact that to be really effective medical inspection of shipping must precede the advent of cholera. Secondly, as to our inland districts. A source of danger of course arises directly any such introduction of cholera occurs from any failure in port administration. Such introduction may also arise where no such failure has taken place, because there are mild choleraic attacks which it is difficult to differentiate as such, especially at the commencement of an epidemic. The danger is greatest in districts where public water-supplies are liable to pollution, where private wells are sunk in a contaminated soil, and where the air, soil and food are liable to be contaminated from faulty systems of sewerage and drainage, and where nuisance arises from faulty systems for the reception and disposal of excrement and refuse. Thirdly, as regards the question of merchandise. In the first instance we may deal with rags, concerning which so much has been alleged. It was pointed out ten years ago by Sir GEORGE BUCHANAN that no introduction of cholera into England was ever known to have taken place by means of rags; but in the desire to exclude all recently contaminated articles of clothing and bedding, which so often form part of bundles of rags, there was a growing tendency, until last year, to regard rags as being capable of communicating the cholera infection. In our comments on the Dresden Convention we have already pointed out that not one of the medical delegates present at that Conference could give any information to show that rags, in the commercial sense of that term, had ever served to convey cholera. This coincided with the English experience and hence it was deemed to be right to limit the prohibition as to rags to recently soiled linen, bedding and clothing, which stand in a different category. The recent Order of the Local Government Board makes this limitation. It is mentioned in the daily press this week that shoddy constitutes an especial danger. If it does, the danger would attach to those who unpack, handle and tear up the shoddy; but the districts in which this is done have hitherto been marked by their immunity from cholera, though receiving the suspected article from districts where cholera has prevailed. Fish is the next article to which danger is said to attach, this allegation being the more prominent now because large quantities of fish are sent from Grimsby to different parts of England. It is difficult to imagine the exact circumstances under which fish, which reaches Grimsby by sea and is packed in cases without entering the town, can readily receive the cholera infection. For those who cook their fish before eating it, however, even this possibility need give no apprehension. It is otherwise, however, with cockles, for the cockle bed at Grimsby lies by the sewer outfall. The great danger of the importation of cholera into this country lies in the fact that we have no alternative but to admit to our shores persons in apparent health, but who may be incubating the disease. Our efforts should be concentrated, firstly, in preventing the introduction of recognised disease, and, next, of so improving our sanitary circumstances that it shall not find the soil in which to multiply. These should be the prominent considerations which all sanitary authorities should set before themselves.

THE Select Committee of the House of Commons which was appointed to inquire into the existing arrangements for certifying and registering deaths concluded their labours and presented their report to the House on the 1st inst. As might have been expected from the constitution of the Committee, the inquiry was an exhaustive one, and the report, a full description of which will be found on p. 649 of our present issue, is a very valuable document fully justifying the appointment of the Committee. The report concludes with the following ten recommendations:

"1. That in no case should a death be registered without production of a certificate of the cause of death signed by a registered medical practitioner or by a coroner after inquest, or in Scotland by a procurator-fiscal. 2. That in each sanitary district a registered medical practitioner should be appointed as public medical certifier of the cause of death in cases in which a certificate from a medical practitioner in attendance is not forthcoming. 3. That a medical practitioner in attendance should be required, before giving a certificate of death, to personally inspect the body; but if, on the ground of distance or for other sufficient reasons, he is unable to make this inspection himself, he should obtain and attach to the certificate of the cause of death a certificate signed by two persons, neighbours of the deceased, verifying the fact of death. 4. That medical practitioners should be required to send certificates of death direct to the registrar, instead of handing them to the representatives of the deceased. 5. That a form of certificate of death should be prescribed, and that in giving a certificate medical practitioners should be required to use such form. 6. That it should be made a penal offence to bury or otherwise dispose of a body, except in time of epidemic, without an order from the registrar stating the place and mode of disposal, which order, after it has been acted upon, should be returned to the registrar who issued it. 7. That it should be made an offence to retain a dead body unburied or otherwise legally disposed of beyond

a period not exceeding eight days, except by permission of a magistrate. 8. That the practice of burial in pits or common graves should be discontinued. 9. That stillbirths which have reached the stage of development of seven months should be registered upon the certificate of a registered medical practitioner, and that it should not be permitted to bury or otherwise dispose of the stillbirth until an order for burial has been issued by the registrar. 10. That, subject always to the discretion of the Crown Office, the results of precognitions taken by the procurators-fiscal in Scotland or the precognitions themselves should be communicated to the representatives of the deceased when application is made for the same."

As *The Times* observes in a leading article of the 4th inst., "The report explains very fully the existing state of the law on this important subject, and gives some startling proofs of the laxity with which it is administered and of the dangers against which it offers no safeguard." It is shown conclusively that the majority of uncertified deaths are those of young children or aged persons, the proportion of these deaths being lowest at that age when men and women are self-supporting, and when their lives therefore are economically most valuable as bread-winners. When the deceased is likely, by tender age or advanced years, to become a burden on friends, then the proportion of uncertified deaths is found to be larger. There is, however, one circumstance which our contemporary has not noticed, but which we, as medical journalists, must point out, since it is one of great importance. Is the procuring of medical attendance on the aged and on children a burden? In these days when there are so many members of our profession not only willing but anxious to attend the poor for the most moderate remuneration, the burden, so far as medical attendance is concerned, cannot be accepted as a reason for anyone dying without medical attendance amongst those who are able to pay a moderate fee; and even when this is impossible the means of obtaining gratuitous medical advice in all large centres of population are so ample that there are no grounds whatever for alleging the difficulty of procuring medical assistance as a reason why no medical certificate was obtained. The sudden character of many deaths is probably one reason for their not being certified, whilst to the apathy and indifference which characterise so many persons of all classes must be ascribed much of the neglect to procure medical advice. The first recommendation of the Committee, supported as it was by the evidence of many witnesses, was fully expected. The second one is, as *The Times* observes, an almost necessary sequel to the first. If all coroners were fully competent by previous medical training not only to hold inquests on all deaths where they are required by law, but also to make informal inquiries respecting uncertified deaths where inquests were unnecessary, the proposed public medical certifier would be unnecessary. Unfortunately, the Registrar-General shows very significantly his opinion of the value of these informal inquiries by classing them all as uncertified deaths; and even after inquests the result is far from satisfactory, a large proportion being, as we have repeatedly shown, expensive and useless farces. Dr. OGLE gave the Committee two illustrations of this in the form of two verdicts. The first was, "Died from stone in the kidney, which stone he swallowed whilst lying on a gravel path in a state of drunkenness." The second was, "Child three months old found dead, but no evidence whether born alive." We may safely conclude that the coroner who presided in each case was not a medical man, and we agree with our lay contemporary that "these instances give point to the remark in the report that a coroner is not always able to include in the verdict a statement of the cause of death even if he desires to do so, and that he ought therefore to be more ready to take medical evidence than he is, and that it would be well if his certificate embodying the verdict of the jury were made out in some officially prescribed form and less loosely than it sometimes is." The reason why so many inquests are solemn farces is solely because of the absence of medical evidence. For a legal coroner to assume from the evidence of lay witnesses that the death was natural is as absurd as it is presumptuous.

We cannot be surprised that the Committee should have recommended the appointment of "medical certifiers," seeing how many witnesses suggested this course and the cogent reasons with which they supported the recommendation. Passing on to the recommendation of the identification of the body by the medical attendant before giving a certificate, experience has shown how very desirable this is. If carried out it will, we trust, put an end to the loose system which prevails in many hospitals and dispensaries, where certificates of death are given in the case of children after one attendance and without any identification of the body. That this opens widely the door to neglect and even foul play cannot be denied; moreover, the identification of the body by the medical attendant would tend greatly to increase the value of the medical certificate. The sending of this certificate directly to the registrar, and the invariable use of a proper specified form, are recommendations which have been urged by many medical witnesses, and with good reason. The details given in the certificate are not required by the surviving relatives of the deceased, but by the State for statistical purposes, and obviously ought to be sent directly, or under sealed cover, to the registrar. The sixth recommendation is very important. At present a body may be buried without any "burial order" so long as notice is sent to the registrar by the burial authorities within seven days. It is no answer to say that it is seldom done. It ought never to be done (except in times of epidemics), and it is high time that it should be made a penal offence. The other recommendations—the prohibiting the retention of a body unburied beyond eight days, the discontinuance of burial in pits or common graves, and the registration of stillbirths—are all excellent and demand future notice, it being impossible to do justice to them within the compass of one article. The last recommendation applies to Scotland alone. In conclusion we trust that all those recommendations which do not require legislation to enforce them will be promptly adopted and that even where an Act may be necessary for the enforcement of the rest the voluntary efforts of members of the medical profession, registrars of deaths, coroners, and cemetery officials may go far towards making it unnecessary.

THE issue by the medical officer of the Local Government Board of the further report on epidemic influenza, to which we referred last week, concludes, we hope, the history of a four years' epidemic, which, commencing in 1889, continued

until the close of 1892. A few cases of death from the same disease have been reported somewhat recently this year, but the epidemic as such seems to be at an end. Dr. PARSONS' two reports, together with that of Dr. KLEIN, constitute, we believe, the most complete statement that has yet been published on the subject from the etiological and public health point of view, and the matters with which the recently issued volume deals are interesting at the present moment and will also afford valuable material for reference should the disease at any time recur. After a lapse of forty-one years influenza reached England again in 1889; it travelled steadily from the East towards this country following the lines of human intercourse. We learn from the report that the incidence of the disease has been different in different places, and that it has varied in different phases of the prolonged epidemic through which we have passed. Why this should be so has not yet been made out, but a review of all the circumstances gives negative evidence to the effect that the differences cannot be accounted for by conditions of site, soil, occupation or any of the ordinary conditions which affect human life. How far the difference may be due to different qualities in the bacillus, as to which Dr. KLEIN reports so fully, is also not known; but there is some general evidence to show that the power for mischief of various micro-organisms varies from time to time, and these variations will doubtless some day be traced to their proper source. In the meantime one method by which the disease is spread from person to person seems to be made clear. Dr. KLEIN finds, for example, that the sputa in all cases of influenza abound in the specific bacilli during the acute stages of the disease, and this for the moment indicates at least one method by which the affection may come to be in some degree controlled. It is now becoming more and more habitual to receive the sputa of patients suffering from diseases such as phthisis and diphtheria into vessels charged with some disinfecting fluid, and in so far as this may be practicable in the case of influenza it is suggested that it might be followed. The main difficulty as to this will probably arise from the fact that the bacilli of influenza manifest themselves in the bronchial tubes at a very early stage of the disease, and that some of the mischief which should be avoided will already have been brought about before the disease is recognised. But as to this we are not much worse off than we are when we deal with such a disease as measles.

In England, at least, influenza has apparently had but one origin—viz., a human one. It was at first supposed that the infection was derived from a number of domestic animals, and in the case of horses the term "influenza" is commonly given to a disease which has some superficial similarity to epidemic influenza in the human subject. But Dr. KLEIN finds no analogy between the disease in man and diseases in the lower animals which have been regarded as allied to it. And in this respect Dr. PARSONS' investigations amongst persons who have been living in close relation with horses and stables bear out the same view. One observer, who is quoted in the body of the report, gives an account of the signs by which epidemic influenza can be distinguished from the ordinary catarrh, to which we have commonly assigned the term "influenza" in previous years. Amongst other points of difference, he says that ordinary catarrh is not infectious. We cannot agree with this. It is a matter of common repute that such a catarrh, often termed an "influenza cold," "runs through the house"; and when we come to remember how excessive is the prostration of such a catarrh as compared with the comparative triviality of the symptoms, we are very much inclined to think that in their action on the nervous system both affections have something in common, and that if they differ as to this it is only in degree. And even on this point we cannot help recalling the fact that before epidemic influenza was recognised some catarrhs have had a distinct and serious influence on the nervous system; whilst undoubted cases which occurred during the recent epidemic of influenza have exhibited but little of such influence. In fact, one of the most interesting subjects for future investigation will be the relation of that household catarrh, much at least of which has for a long series of years been termed by us an "influenza cold," to the epidemic influenza which from time to time reaches us in virulent form and once again leaves us in possession of an infective catarrh which in many features resembles the epidemic disease.

IT is impossible to peruse the summary which we publish in another column of the Report of the Asylums Committee of the London County Council without being struck with the comprehensive sphere of work that has fallen into their hands and with the great responsibility that rests upon the Committee in duly carrying out that work. We are bound to say that the members of the Committee appear to be animated with a wholesome desire to concentrate their efforts and bring them solidly and effectively to bear upon a task whose laboriousness and importance they themselves fully recognise. Asylum administration we have in abundance throughout the country where one or two institutions are worked under the supervision of a single committee; but the task of the London County Council is of a different kind altogether. Dealing as it does with a group of asylums containing some 11,000 inmates—about one-eighth of the asylum population of England and Wales—this task is neither more nor less than an experiment upon a huge scale, demanding from the Asylums Committee, if they would conduct the experiment to a successful issue, the very highest capacity in organising, systematising and developing the resources at their command. At the outset of their report they tell us that they have the pleasant duty of making a favourable report upon all the London asylums. "We are enabled," they go on to say, "to state that substantial progress has been made towards effecting the uniformity in the various details of their general management, which, from experience, we have come to regard as an essential factor in the effective conduct of the important and responsible charge committed to us."

We are glad to see, both by their own statement and in the statistical information attached to their report, that the Committee recognise the great importance of having their asylums officered and manned by a staff whose pay and position are assured to them in their various grades upon a respectable and substantial basis. Skilled work and skilled opinion have in the present day to be paid for at a high price, but they are always found in the end to be cheaper than other kinds of labour and opinion. In this sense nothing is more conducive to the efficient and satisfactory medical and general working of an asylum than an intelligent

staff with a large proportion of senior attendants who have been induced by considerations of pay and position to carry on their duties as being their life's work. One good and trustworthy attendant after five years' service—and much more so after ten—exerts a most beneficial influence, not only by his discretion in dealing with his patients (whose every move he knows) and in averting difficulties by anticipation, but also by the example he sets to junior attendants. In this relation there is no appointment in the patronage of the Asylums Committee which deserves or demands substantial recognition at their hands more than that of the office which they are in process of creating—namely, that of pathologist to all the asylums. We congratulate the Committee on taking this step, which we believe to be a move in the right direction; but unless they pay this officer well and make it worth his while to continue at the work practically all his life they will have catered for the scientific interest in vain.

We thoroughly support the idea, ventilated by the Committee, of making the London county asylums centres and hospitals for teaching, and we trust that ere long active steps may be taken with the view of giving practical effect to a scheme which would doubtless result in much good both for the insane themselves and for those students and practitioners who are anxious to avail themselves of such an excellent opportunity of extending their knowledge of lunacy work. We hold, too, that the Committee is well advised in seeking to establish a seaside asylum to be available for patients during their convalescence. This, we think, would tend to avert one of the great risks which result from the overcrowded state of our asylums—namely, that of the discharge of insufficiently recovered cases. Such instances are only too numerous, for there is an all-important difference between the recovery of a patient from the acuteness of an attack, so as to permit of his or her being allowed the freedom and privileges of the most tranquil and trustworthy inmates of an asylum, and the recovery of a patient which enables him or her to buffet successfully with the strain and worry of life, very possibly amidst uncongenial surroundings. This report, together with the various appendices, which give the reports of the superintendents and other officers of the different asylums, as well as many useful statistical tables, is an exceptionally valuable contribution to our information on lunacy matters, and we do not hesitate to commend it to our readers as being eminently practical and suggestive in many ways.

Annotations.

"Ne quid nimis."

THE SALARIES OF MEDICAL OFFICERS OF HEALTH.

THE proposals of the sanitary committee of the Cornwall County Council for increasing the salaries of the medical officers of health in that county upon a definite basis of population and area have been somewhat ruthlessly rejected by the County Council. It was felt by the committee that the increased labours and responsibilities cast upon medical officers of health by the legislation of recent years called for some addition to the paltry remuneration now made in so many instances. In consequence of this they suggested as a minimum "a preliminary fee of £10 for every sanitary district, with an additional £5 for every 1000 of population or fractional part of a 1000 population where such fractional part exceeds 500 and an additional allowance of £2 per 10,000 acres where the area of the district is 10,000 acres or above." It was proposed by the committee that this scale should be submitted to the several sanitary authorities for their consideration, with a recommendation that before any increase of pay be made they should consult with the sanitary committee as to the manner in which the medical officer of health had performed his duties. Few who know anything of the duties of a medical officer of health would consider this scale as in any degree an adequate one, but the attitude of the Cornwall County Council towards it may be judged from the discussion which followed the proposal. One speaker objected because he had faith in the principles of local option, and another on the ground that "the worst paid medical officer of health was better paid than the tenant farmers who raised the money." In vain did Mr. Trevail (the chairman of the sanitary committee) draw attention to the condition of things obtaining in the Launceston rural sanitary district, where the medical officer of health is paid but £20 a year to guard the sanitary condition of a population of 11,000 persons inhabiting an area of 99,500 acres. The proposal was put to the vote and rejected by a large majority. Whilst most fully sympathising with the committee in their endeavours, it is somewhat difficult to see how under the present constitution of sanitary authorities, and the relations of the county councils to them, the object in view is to be effected by the means proposed, except perhaps in so far as representations made by county councils might lead the Legislature to fix some minimum to the salaries of medical officers of health. The suggestion that the local authorities should consult the sanitary committee of the county council before increasing their medical officers' pay is hardly one which, in the absence of a county medical officer of health, is likely to be favourably considered. The public health service has, however, reason to thank Mr. Trevail for drawing public attention to the scandalous disparity which exists between the duties of a medical officer of health and his remuneration.

JOHN LOCKE, PHYSICIAN AND PHILOSOPHER.

THE last number of the *Asclepiad* contains an interesting summary of the life of John Locke, with special reference to his medical career as a practitioner and sanitarian. Sir B. W. Richardson also affords some details which are not generally known as to the present condition of his birth-place and burial-place. After graduating in Arts, Locke appears to have applied himself to a somewhat discursive but general study of medicine, but like another philosopher—Thomas Carlyle—whilst acquiring the current and ancient learning which was to be obtained at his University, he seems to have regarded qualification through the recognised portals as being an altogether subsidiary necessity, for it was long before he received the Bachelorship in Medicine and he never attained to the Doctorate. He appears, nevertheless, to have dabbled in many phases of the healing art, and to have been of real assistance to his patron and friend, Lord Ashley, during a very serious illness. Sir B. W. Richardson suggests that Locke may also have overlooked the importance of proper qualification in medicine because of the little progress which that art had made since the master minds of Galen and of Hippocrates left their impress on it. This may have been so, for it is a curious fact in this connexion that Sir William Hamilton is also said at one time to have contemplated a medical career, which had been followed by several of his immediate ancestors, but that he refused to do so on reflection because he considered that the medicine of his day was in much the same

condition as that in which the Father of Medicine left it. We suspect, however, that both in his case and in that of John Locke the metaphysical bias was more pronounced than the aptitude for physical research. The combination of the two faculties in an adequate degree in the same person is acknowledged to be of very rare occurrence. The physician, far from being discouraged by the slow advance of medicine, and knowing at the same time the inexhaustible secrets of nature if we but knew how to extort them, would have regarded that very circumstance as giving an opportunity for fruitful work. There are those who have maintained that men of superior parts are equal to anything, "from writing a leading article in *The Times* to commanding the Channel fleet"; but the genius himself is usually aware of his own limitations and wisely regards the bent of his dominant inclinations as being the avenue to most fruitful effort. Of Locke's medical works the writer of the *Asclepiad* does not think very highly, neither, we imagine, could the sagacious Locke have set much store by them unless, like Shakespeare, he admired most what he could least achieve.

THE ETHICS OF SUICIDE.

In spite of some pessimistic utterances in its favour, suicide still ranks with us as an indictable offence. This is but natural if we allow that self-destruction is incompatible either with mental or moral health. We are all familiar with the verdict so often heard at the close of a coroner's inquiry, "Committed suicide whilst of unsound mind." Without doubt it describes with more or less accuracy every case of the kind. It certainly applies to such a case as that of a young practitioner who lately died from taking an overdose of morphia. It does not however, as a rule, exclude the operation of moral forces, and there is abundant proof to show that these are active at every stage in the pitiful transaction. We would claim for them a predominating influence. The mind which connives at self-destruction is at variance with the most elementary instinct of self-preservation, a sentiment which is fully justified both by the proved possibility of present existence and by our ignorance as to future events. It is therefore unhealthy. It is in an even greater degree immoral, since possessing within itself a sense of duty and of relationship with others in their lives, labours and attainments, it ignores all for the sake of a present gain of personal relief. No one can rid himself of this relationship without at the same time casting on others the burden of responsibility which he abandons. We cannot, therefore, bring ourselves to agree with some who go the length of excusing suicide and even of advocating the creation of facilities for its accomplishment. Of more practical importance, as bearing upon the causes and course of this essentially morbid condition, is a brief analysis of 100 cases lately published in the pages of a contemporary. From this article we gather amongst other interesting details that, according to the evidence obtained, men destroy themselves with much greater readiness than women. The proportion is about two to one. Middle age is the period at which the tendency is most marked, and the middle-class holds the same position in the social scale. Mental influence is more active than any physical inducement, and pecuniary and related social difficulties fill a larger space than any other group of motives. As regards the question of treatment it is to our mind perfectly clear that the evil of suicide is not to be disguised by resorting to a lethal chamber or other permissive method, however plausible its description, but by cherishing a simpler, stronger and more impersonal sense of human fellowship and mutual duty. In the presence of innumerable evidences of providential design we would equally impress the necessity of remembering that the divine order still prevails, and still for each and all men furthers, though sometimes obscurely, their best interests. Let us not forget physical considerations. Mental depression is often the outcome of mere bodily illness, especially of fatigue and of indigestion. Some judgment in treating these, some consideration on the part of employers of labour, may disperse a thundercloud of despair which otherwise would settle in perpetual gloom. We have heard enough, at all events, of the modern pessimism with its latest miserable canon of self-destruction. We would substitute for it the plain, old-fashioned but eminently wholesome and courageous precept, "Never say die."

AN UNNECESSARY PERIL OF RAILWAY TRAVELLING.

It has been shown by statisticians that travelling by railways is not more dangerous than travelling by other conveyances—indeed, it is rather less so. The late John Bright is said to have affirmed that he regarded a railway carriage as being the safest place in the world. Whether this dictum be correct or not, there can be no doubt that railway travelling may, by the use of precautions more strict than those hitherto adopted, be rendered still safer. Many of the accidents which have of late years occurred during railway travelling have been traced to the desire on the part of the managers to effect economy by reducing the number of their employés, or, at least, by failing to supply them in number sufficient to meet the contingency of holiday traffic. The *Railway Review* gives an instance in which the guard of a passenger train worked for thirty-six hours without an interval of rest, including in his duties the relief of a signalman who had been twenty hours on duty; and other examples of a like kind are given. We have more than once pointed out the enormous risk which is incurred by the travelling public through the want of proper attention on the part of railway companies to this important matter. It is inexcusable that the lives of passengers should be dependent upon the vigilance of an overworked official.

A NEWLY DIFFERENTIATED PARASITE.

Dr. Prospero Sonsino, *privat-docent* in the University of Pisa, and well known for his researches in helminthology, has just issued a monograph, which we publish in our present issue, on the Bilharzia Hæmatobia, a trematode parasite the ultimate cause of a disease with which European practitioners in Eastern Africa are not unfamiliar. During a residence at Gabes, in Southern Tunis, he encountered cases of the disease in question, and as the result of a series of carefully checked observations and experiments on its parasitic origin came to the conclusions which we may thus summarise: 1. The bilharzia hæmatobia describes a biological cycle which removes it from the type of the so-called "trematoda digenetica." 2. The biological cycle referred to is very simple, because it presents metamorphoses and an intermediate *hospitium* (or half-way house) but no alternation of generation. 3. It approximates therefore to the biological cycle of the holostomata rather than to that of the distomata. 4. The intermediate *hospitium* of the bilharzia hæmatobia is afforded by a minute crustacean. 5. The embryo, having issued from its ovum, encounters this crustacean, attacks it with its proboscis in a vulnerable part of its body, penetrates inside the body after having divested itself of its ciliary integument and there encapsules itself. 6. The point of the crustacean's body in which the cyst of the larva of the bilharzia is most frequently to be found is the first segment of the crustacean in the immediate neighbourhood of its eye. 7. The encapsuled larva waits until the crustacean has been swallowed by the human subject in a draught of water and, having gained access within its intermediate *hospitium* into the digesting canal (*tubo digerente*) and there been set at liberty, it perforates the intestinal walls and finds

its way into the blood (presumably of the portal system) in order to complete its development. Dr. Sonsino's researches will be read with peculiar interest in Egypt, where the unfiltered Nile water, used as a beverage, introduces the bilharzia-enclosing crustacean into the alimentary tract and is the more than probable antecedent condition to those symptoms of colic, stubborn hæmaturia and intense and increasing prostration for which, when once established, no remedy has been found.

ALCOHOL AND HEART DISEASE.

DR. DRUMMOND, in his Address in Medicine at Newcastle-on-Tyne, justly noticed the power of alcohol as a cause of disease of the heart, operating chiefly on the myocardium and often causing sudden death. Lately, at the Islington Coroner's Court, a case in point was investigated. The wife of a railway guard was found by him dead in bed at 1 A.M. The evidence showed that she had been nearly always the worse for drink. A post-mortem examination was made and it was found that the heart was fatty and that the liver was cirrhosed. The coroner made some very sensible observations on this class of cases and the difficulties they occasion to medical men and friends. The disease of the heart is not so readily detected as if it were located in the valves, and the present state of legislation gives no satisfactory power of controlling the victims.

VIEWING THE BODY.

AT an inquest held at Tettenhall on Aug. 21st. before Mr. Martin, deputy coroner for Wolverhampton, on the body of a labourer which was found floating in the Staffordshire and Worcestershire Canal, the foreman of the jury said it was their unanimous wish that a strong protest should be made against the practice of viewing the bodies at inquests. They thought that it was a quite unnecessary custom, that it served no good purpose and that it was likely to be injurious to health. The deputy coroner promised to forward the protest to the Home Secretary. There are great difficulties in the way of dispensing with this very disagreeable duty. As an instance we may refer to the cases of executed criminals. As executions are now conducted within the walls of prisons, and generally without any representatives of the press being present, an inquest and view of the body are absolutely necessary, not only to fulfil the requirements of the law, but for the satisfaction of the public. Moreover, every burial order signed by coroners is for the burial of the body shown to the inquest jury as that of A. B——. We have repeatedly urged that this viewing of the body should be made as little repulsive as possible—where feasible it may be done through a window or through a glass fitted in the coffin lid; but until an Act of Parliament is passed dispensing with the formality of viewing the body it is absolutely necessary for every coroner to insist upon it.

THE GOVERNMENT AND HYDROPHOBIA.

THOSE who, like ourselves, can claim a share in what Sir James Paget has called an "enthusiasm for health" will read with peculiar satisfaction the latest annual report of the Pasteur Institute. From this it appears that out of 1790 persons treated for rabies only four died. When we remember that prior to the period of treatment by inoculation the lowest estimate of death-rate in this disease was 5 per cent., a reduction by more than nineteen-twentieths is very significant. Neither should it be forgotten that at the Paris Institute inoculation is resorted to only after a careful examination of the circumstances which in any case are taken to justify the diagnosis of hydrophobia. In this country we have had recent acquaintance with this terrible disease in an epidemic form, and we have had clear evidence of the success with which it can be subdued, if not eradicated, by means of strict preventive measures. So far well, but as regards the active treatment of the disorder itself, in spite of ample means, abundant skill and every appliance and facility save one required for the culture of the virus, we remain helpless. Last year twenty-six of our fellow-countrymen, unable to obtain at home the simple means of treatment which alone could help them in a dire extremity, had to go to France to obtain the benefit of that treatment. "Vivisection" is entailed by their treatment which cannot, therefore, be carried out at home. We commend these facts to public consideration and especially to that of a responsible government. There seems to be here no settled place for mercy. The term is curiously interchangeable with cruelty. We pity and excuse the animal only that the man may suffer. How much more intelligent is the humanity which, at the cost of a certain amount of greatly mitigated pain inflicted on a few rabbits, would preserve many a human being in health and usefulness.

TREPHINING FOR BASAL HÆMORRHAGE.

IN a paper published in the first number of the *Edinburgh Hospital Reports* Dr. Andrew Smart records a case of no little interest and of considerable practical importance. The patient was a woman aged forty-six; she was conscious at the time of admission and was able to answer questions fairly well. There was a bruise on the right side of the head near the parietal eminence, where she had received a blow; the face was drawn to the right; the pupils were medium in size, nearly equal and reacted normally to light; and there were left homonymous hemianopsia and weakness of the left arm and leg. Coma supervened a few hours after admission. A basal lesion on the right side was diagnosed. Professor Chiene trephined at first over the site of the bruise and then a little in front. The dura mater was incised and considerable bulging of the brain followed. The patient regained consciousness a few hours after the operation, the breathing meantime having become almost natural, whilst before the operation it had been characterised by long intermissions. The improvement continued until she left the hospital, about two months after admission, but the hemiplegic weakness still persisted. This was present a year later and the hemianopsia also remained. The case is interesting as illustrating the relief afforded by an opening in the skull when there is a condition of intracranial pressure present.

PARTIAL OPENING OF THE INTERNATIONAL EXHIBITION OF HYGIENE IN ROME.

OUR own correspondent, under date Rome, the 21st ult., writes: "As has already been announced, the postponement of the International Medical Congress affects equally its concomitant, the International Hygienic Exhibition—the latter, like the former, being deferred till Easter next. In view, however, of the fact that the Red Cross Section of the Exhibition was not only complete in itself, but also that a large proportion of its special exhibits had been received in the competition for the 'King Humbert and Queen Margaret Prize,' it appeared to be desirable to open that Section only, so as not to keep the competitors waiting in suspense beyond the appointed time. Accordingly, on Wednesday, the 20th inst., at the Eldorado in the Via Nazionale, the inauguration of the Red Cross Section of the Exhibition will take place, under the auspices of the 'Comitato Centrale della Croce Rossa,' and with the intervention of the foreign delegates who represented the different Red Cross Associations of Europe at the Congress which was held last year in the Capitol and which was reported *in extenso* in the columns of THE LANCET. The subject of the chief prize to be competed for (the King Humbert and Queen Margaret

Prize, value 10,000 fr., or £400) is, it will be remembered, the best mechanical means of picking up the wounded from the battlefield and conveying them swiftly and painlessly to the nearest Red Cross ambulance. The competitors are numerous, not only Italy but Germany and Austria-Hungary having sent in many elaborately worked-out and practically illustrated methods of rendering the required assistance. For the other prizes there is also a large number of competitors from nearly every country in Europe, as well as from the New World. The results of the competition are awaited with the keenest interest, as it is generally anticipated that they will materially reinforce the medical arm of the military service, besides enlarging the resources of the Red Cross itself."

THE CIRCULATION TIME IN DIFFERENT ORGANS.

AN article in the current number of the *Journal of Physiology* by Dr. G. N. Stewart is devoted to an account of his experiments to determine the circulation time in different organs of the body. The method he adopted is founded on the circumstance that the electrical conductivity of the blood is mainly due to the solution of the salts in it, and, as this proportion of the salts can readily be altered by their injection into the blood, it follows that the arrival of the altered blood can be detected by an easy galvanometrical observation without the necessity of opening the bloodvessels. The instrument that was used for the determination of time was a specially constructed stop-watch. The solution used was a 2·5 solution of common salt. The galvanometer was a Wiedemann's; the anæsthetic used was chloral; and the animal experimented on was the rabbit. It was found that the circulation time in the animal from the jugular to the right crural vein is 8·4 seconds. Speaking roughly the time of the pulmonary circulation is about a fourth of the mean systematic circulation time. The kidney has a long circulation time. The blood may take nearly as long to pass through the kidney as to pass round the whole circulation by the leg. Dr. Stewart considers that the explanation of this is the great vascular resistance which is presented by the double set of capillaries in the kidney. In regard to the lungs, Dr. Stewart observes that, taking the mean total circulation time in a rabbit weighing two kilogrammes as being 10 5 seconds, we arrive at 342 as the number of times the whole blood passes through the lungs in an hour. A two-kilogramme rabbit contains, according to Ranke, one-ninth of a kilogramme of blood; therefore, thirty-eight kilogrammes of blood pass through the lungs per hour. In the case of the liver considerable difficulties presented themselves, but the circulation time from the mesenteric veins to the carotid artery seems to be about six seconds, the actual circulation time through the liver being about four seconds.

THE PREVALENCE OF FEVER.

SCARLET FEVER is steadily decreasing in the large towns. Between 1500 and 1600 cases are now notified weekly, of which the metropolis furnishes not more than half. West Ham, Bradford and Leicester are still notable contributors. It is also present in Kendal and in Edinburgh. Less than 400 cases of diphtheria are reported, but the proportion of cases of this disease which are supplied by London is never less than two-thirds and is more often three-fourths. The mortality from this disease in London is at present threefold the average and the number of cases under treatment continues to rise week by week. Though rather more cases of scarlet fever are being admitted to the Metropolitan Fever Hospitals, the total number remaining under treatment is now well under 3000 and bids fair to keep at that point. This may in part be due to the fact that, owing to the recent demand for beds, some of the London vestries—e.g., Marylebone—have been using hospitals of their own. The incidence of enteric fever still shows an increase, more than 400 cases being reported weekly; but of these London contributes only about one-sixth. The mortality from enteric fever (to the increased prevalence of which we have already referred) shows a considerable rise, but the numbers admitted into hospital do not present an appreciable increase, since so many of these are treated at home and in the general hospitals. Intelligence from the provinces shows that enteric fever is rife at Nuneaton, where it is ascribed to emanations from sewer ventilators, at Bagillt, in the Holywell rural district, where it is said to be of a malignant character, and that it has reappeared in the Rhondda Valley. The same disease, as well as typhus fever, still exists at Dundee, whilst at Worthing it is reported to be definitely declining. Measles is prevalent in Wolverhampton, where schools have had to be closed on this account. Small-pox has entirely abated in Edinburgh. Persons working in the hop-gardens of Worcestershire and Herefordshire have lately been much exercised by rumours that small-pox stricken persons from the Black Country were in their midst. It is stated that there has been a large emigration of hop-pickers from Dudley, where that disease has lately been very rife. Under these circumstances the sanitary authorities are taking every precaution to prevent its introduction and spread in the districts under their care.

THE ATMOSPHERE OF MANCHESTER AND SALFORD.

IN the early part of last week the Air Analysis Committee of the Manchester Field Naturalists' Society issued their second report on the atmosphere of Manchester and Salford, the first report of the committee having been published in 1891. The committee have been engaged during the past two years in carrying out investigations in various directions, with a view to ascertain the amount and character of the air pollution in various parts of the city. The funds for this work have been supplied partly by the Town Gardening Committee of the Field Naturalists' Society and partly from a special grant of the Royal Society. Without the hearty coöperation of a large number of voluntary observers who undertook the superintendence of the apparatus it would not have been possible, the committee affirm, to have carried on the work. By means of this staff of observers in different parts of the city and suburbs a large amount of information has been collected regarding the nature and distribution of fog. There appears to have been, on the whole, much less fog during the winter of 1891-92 than during the previous winter and hardly any serious or prolonged occurrence of it. This is largely owing to the fact that barometric pressure was, during the whole period, remarkably variable. On twenty occasions (two of them partial) dense and continuous fog was recorded and on fifty-six occasions it was confined to the morning or evening. During the whole of October the fogs were "shallow" — that is to say, hardly extending above the houses—so that the blue sky could be seen directly overhead through them. They almost invariably accompanied a steady or steadily rising barometer and especially when a marked fall in temperature occurred almost simultaneously. They were when partial most likely to occur in the vicinity of streams of water, and were, for instance, frequently dense over the Irwell and over the Medlock, near All Saints', when the rest of the city was almost clear. The fogs were usually most suffocating and noxious in the neighbourhood of the Irwell, near Cornbrook and Blackfriars. The most central part of the city was usually more free than the surrounding area; this was particularly the case with the fogs which were of short duration. In concluding their remarks the committee point out that hitherto the nature of the air at different heights during the prevalence of fog has not been investigated and they

promise that experiments in this direction shall shortly be undertaken, which will presumably form the subject of a third report.

BEGGING FOR HOSPITALS.

WE must all regret the necessity which obliges hospitals to "go begging," yet this, notwithstanding a few notable exceptions, is their common lot. Doubtless we have still amongst us munificent benefactors whose liberality like that of Guy, Rahere, and others now and then becomes monumental in the treatment of the sick, and their endowments constitute the sole reliable foundation of our hospital finance. Unfortunately they have not abounded in proportion to the medical needs of an ever-growing and in great measure an ever-poor and ever-ailing population. It is needful therefore, as it is also just, to expect and to seek for the practical expression of public sympathy in support of their devoted generosity. The quest is no ignoble one. It is essentially unselfish and humane, and therefore honourable; yet it is after all, we repeat, a subject for some regret, especially because there enters into it so much—as we constantly observe—of personal application. Of late, indeed, methods which amount to nothing else than simple touting have been in common use. Every now and then a Sunday is turned into a mere gala day, whilst crowds of persons of all ages parade and obstruct the thoroughfares with banners flying, bands playing and children running everywhere soliciting a charitable penny. Elsewhere and quite apart from even the sanction of such an occasion, some young girl runs up and accosts passers-by, with a like purpose. Natural reserve would almost seem to be forgotten, old ideas on the subject become obsolete in presence of a new motive, and danger is unthought of. Surely this is going too far, and we greatly doubt whether the ripe stores of public charity are more effectually tapped by resorting to all this parade and this personal exposure than they would be if quieter methods were adhered to. It is at least advisable that street collections, if they be considered requisite, should be sheltered by the protective guarantee conferred by a public occasion—such as Hospital Saturday.

MEDICAL MEN AND THE OVERCROWDING OF THE PROFESSION.

THE complaint of overcrowding in the profession is general, we might say universal, at home and abroad, in towns and villages. It must be so when the fresh registrations yearly exceed the deaths in the profession by many hundreds, as we have often pointed out. It would be interesting to study all the causes of this strange fact in favour of the profession as a calling when so many of its members are complaining of it as a hard and unremunerative occupation. There is one reason which occurs to us and which we do not remember to have seen noticed before. We refer to the fact that medical men themselves send their sons into the profession so freely. This is rather inconsistent with the complaint that it is an unsatisfactory and an unprofitable profession. There are occasional instances to the contrary. Some disappointed men, and some even that had no great reason to complain, have been known to say that they would rather see their sons "break stones" than enter the medical profession. This is altogether unreasonable and absurd, seeing that the pursuit of medicine is becoming increasingly more interesting and its foundations more secure in the estimation of all judges. It is, perhaps, natural and proper that a medical man who has worthily followed his calling should wish one son to enter the profession that he may secure the continuity of his connexion with it; but it is quite another matter when medical men send their sons into the profession as if there were no other calling and as if the posts of the profession were all unfilled. What other conclusion can the public come to but that this is an easy road to success? This is, of course, a personal question for every man to decide for himself; but, we submit, it is worth consideration. In some families there certainly seems to be a large amount of the *mens medica*. They breathe an atmosphere of medicine, and every problem in biology and therapeutics comes easy to them. When this is so there is some excuse for sending more than one son into the profession; but where this is not the case it seems to be reasonable that medical men, whilst complaining of the congestion of the profession, should ask themselves whether by example they are not doing much to favour it.

PROFESSOR LEISHMAN.

WE regret to learn that, in consequence of ill-health, Professor Leishman has been compelled to resign the chair of Midwifery at Glasgow University, a post which he has filled with much acceptance for twenty-five years. The names of several candidates for the chair have been mentioned, amongst them being those of Drs. William L. Reid and Murdoch Cameron of Glasgow, and Drs. Berry Hart and Milne Murray of Edinburgh. The income derived from the chair is stated to be about £706.

THE SLAUGHTER OF THE INNOCENTS IN EGYPT.

THE following table, compiled from the *Bulletin Hebdomadaire*, which is issued by the Egyptian Sanitary Department, exhibits a lamentable mortality amongst children of tender age. It must be premised that the returns only refer to thirty towns, with an aggregate (reputed) population of 1,002,961; and that for the last two weeks the statistics of Alexandria are not included. The reason for this omission is not stated, but no doubt it is connected with the fact that the principal Egyptian seaport is now under the control of a municipality.

Thirty Towns of Upper and Lower Egypt, with an aggregate population of 1,002,961 (Census, 1882).

1893. Week ending,	Total number of deaths.	Deaths under five years.	Percentage of deaths under five years.	Births.	Deaths under five years per 1000 births.
June 1st.	1067	642	60·7	942	681
,, 8th.	1156	761	65·8	1046	727
,, 15th.	1208	797	65·9	1063	756
,, 22nd.	1167	780	66·8	982	836
,, 29th.	997	641	68·3	765	890
July 6th.	1134	835	70·5	992	841
,, 13th.	1143	795	69·5	967	822
,, 20th.	1222	852	69·7	1047	813
,, 27th *	952	665	69·8	835	769
Aug. 3rd.*	931	715	75·7	826	853
Average.	1101	751	68·2	940	798
†Damietta.	292	138	47·2	395	349
†Rosetta.	111	73	65·7	141	517

* Alexandria not included. † Same period—i.e., from June 1st to Aug. 3rd, 1893.

It will be seen that the percentage of deaths under five years of age was no less than 68·2 in the thirty towns, and that for every 1000 births there were 798 deaths of tender age. At Damietta, where the people drink cistern water whilst the Nile is low, the birth-rate was largely in excess of the death-rate and the percentage of infant mortality was only 47·2, which, comparatively speaking, is favourable. Rosetta used formerly to share with its sister town the distinction of heading the list for salubrity, but of late years a canal has been dug, which the poorer classes of the people are compelled to use, the public cisterns being no longer filled. There is a stern logic

in these simple facts which cannot be explained away, and the authorities will unquestionably incur a grave responsibility if they persist in closing their eyes to a condition of things which has over and over again been demonstrated. Damietta and Rosetta are both included amongst the thirty towns. Were their statistics excluded the results would be still worse than they appear at present. Surely the fact that in ten weeks out of a total mortality of 11,017 the deaths under five years of age should have amounted to nearly 70 per cent. is so grave, that an inquiry ought to be instituted with a view to the adoption of remedial measures. Such a holocaust ought not to be permitted to continue in silence in these civilised times.

THE DIFFUSION OF SMALL-POX.

AMONGST the places in which small-pox is still prevalent returns as to last week's fresh cases have been received as follows: Bradford, 33; London, 12; West Ham, 7; St. George (Bristol), 4; Birmingham, 4; Walsall, 4; Huddersfield, 4; Wakefield, 4; Tottenham, 4; Heston and Isleworth, 3; Newcastle-on-Tyne, 2; and Tynemouth, 2. Isolated attacks have occurred at a number of places, such as Leicester, Southport, Salford, Ashton-under-Lyne, Chadderton, Keighley, Sheffield and Middlesbrough. The number of patients under isolation in the hospital ships and convalescent hospitals of the Metropolitan Asylums Board on the 4th inst. was 130. This indicates a marked diminution.

MECHANICAL EFFECTS OF CEREBRAL TUMOUR.

IN the *Jahrbuch für Psychiatrie* Dr. Sommer has described a case with reference to the effects produced upon the brain by a large tumour and to the result of its removal. The paper is summarised in a recent number of the *Neurologisches Centralblatt*. The patient was a man aged forty-two, who had suffered from headaches for nine months. Six months before admission to hospital he had transient weakness of the right arm, and when he came under observation he complained of headache and a sense of pressure in the left parietal region. He suffered from slight weakness of the lower part of the face on the right side, difficulty of speech, and inability to write to dictation or spontaneously, although he could copy. There was optic neuritis. The diagnosis of tumour on the convexity of the left parietal region was made and an operation was recommended. A tumour growing from the dura mater was found and was removed. The right-sided weakness and inability to speak persisted after the operation. The patient died three days later. At the necropsy it was found that the left hemisphere was pressed to the right and flattened, and the sulci in the locality of the tumour were much altered. Death, Dr. Sommer thinks, was due to the sudden removal of a slowly developed, compressing mass, and he suggests that in similar cases it would be well to remove the tumour gradually and in pieces, so as to minimise the risk which seems to attend such a procedure as was followed in this case.

THE DIRECT FIXATION OF FRACTURED BONES.

PROFESSOR N. SENN of Chicago, in the August number of the *Annals of Surgery*, suggests two new methods of fixing the fragments of fractured bones in simple or compound fractures. The first method consists in inserting in each medullary canal of the injured bones a small bony tube made from the shaft of the long bone of the turkey, chicken, or rabbit, enlarging the medullary canal by a round file and drilling numerous holes in it, which allow new bloodvessels to penetrate from the medullary cavity to the osseous shaft. The tube is sterilised and constitutes when *in situ* an absorbable interosseous splint that prevents slipping of the fragments. The second method is by the use of a bone ferrule slipped over the fragments and keeping the same in apposition. The femur of a freshly-killed ox should be used in cases of fracture of the femur or humerus in an adult. The medullary canal is enlarged by a file until the bone does not exceed one-sixth of an inch, and if longer than an inch it may be perforated at various points. In cases of compound fracture, if drainage is not required, the wound should be closed with buried and superficial sutures, but in any case a fenestra should be left in the plaster-of-Paris splint through which the wound may be inspected and treated. Professor Senn has used this treatment in three cases with successful results. Both the tube and the ferrule are removed by absorption. It may be added that rotation of the limb below and angularity at the seat of fracture may be prevented by a carefully applied circular plaster-of-Paris splint.

CEREBELLAR ABSCESS.

A CASE is published by Dr. Kenepick in the *Boston Medical and Surgical Journal* which may at least be said to be instructive. The patient was a young Englishman aged twenty-three who had been steward on a yacht. On arrival at Newport, Rhode Island, he complained that he had not felt well for some time and he was inclined to regard the life on board ship as the cause of this. He had become deaf and was much less bright than formerly, having actually been threatened with dismissal on account of slowness and stupidity. He also complained of severe pain on the top and left side of the head. Typhoid fever was suspected, but the symptoms were not considered as being quite conclusive. The pain persisted in spite of the use of drugs, a certain amount of muscular rigidity was occasionally noticed, the deafness became worse and the mental condition restless and peculiar. Death occurred suddenly, and at the necropsy an abscess as large as a billiard ball, which had apparently burst, was found to occupy a space in the cerebellum. The pus was of a very offensive odour. No observation of the eyes or ears seems to have been made. We are not even told whether there was any discharge from the ears or whether there was optic neuritis. It would be interesting to know as to these conditions, for if either had been present it would have greatly assisted in clearing up the diagnosis.

FOREIGN UNIVERSITY INTELLIGENCE.

Amsterdam.—Dr. J. Rotgans of Groningen has been appointed Professor of Surgery.

Bonn.—Dr. L. Jores has been recognised as *privat-docent* in Pathological Anatomy and in General Pathology.

Chicago (*Medical College*).—Dr. Christian Fenger, formerly of the College of Physicians and Surgeons, Chicago, has been appointed Professor of Surgery.

Greifswald.—Dr. O. Schirmer of Königsberg has been appointed Extraordinary Professor of Ophthalmology.

Prague (*German University*).—Dr. Adalbert Czerny has been recognised as *privat-docent* in Children's Diseases.

CREMATION in Switzerland makes rapid progress from year to year. The Berne Cremation Society has just constituted a Technical Commission to prepare designs for the establishment of a crematorium according to the Klingenstiern system. From 40,000 fr. to 45,000 fr. is the estimate for the construction, which is a sum so easily within the compass of a rich canton like Berne that the Bernese are already regarding their crematorium as being the next thing to a *fait accompli*.

A TELEGRAM has been received from the Foreign Mission Committee of the Church of Scotland announcing the death of Mr. William Pirie, L.R.C.S. Edin., of Arbroath. Mr. Pirie had been engaged for three years as medical missionary at Ichang, China, where his medical qualifications stood him in good stead. The nature of the illness, which unfortunately terminated in his death in his thirty-second year, has yet to be learned.

THE Italian Anthropological Society, of whose formation we recently gave some account, offers a prize of 300 francs (£12) for the best work "on the collective properties of all Italy; or of a region, or province; or of one or more communes." Should occasion arise it will offer a second prize of 100 francs. The monographs on the subject must be in the hands of the President of the society at Florence before Dec. 31st, 1894. They may be in MS. (with power to the author to append his name or to inscribe it within a sealed envelope counter-marked with a motto reproduced on the monograph), or in printing. The language employed may be either Italian or French.

WE understand that the preliminary work of the International Congress of Hygiene and Demography, which is to be held in September next at Budapest, is progressing favourably. One important decision, which was accepted at the instigation of the London Congress, relates to the organisation of a separate section for tropical countries. The presidency of this section will be undertaken by Dr. D. Theodor Dicka, and the two secretaries will be Dr. Isambard Owen and Mr. S. Digby.

WE would call attention to a published announcement to the effect that the sixteenth course of lectures and demonstrations for the benefit of sanitary officers will be opened on the 29th inst. at the Sanitary Institute, Parkes Museum, Margaret-street. These lectures have in former years proved of great value to persons interested in the progress of sanitation, and aided as they are by diagrams, models and lantern slides cannot fail to be increasingly popular and useful as time goes on.

CHOLERA.

CURRENT NOTES, COMMENTS AND CRITICISM.

IT would be both difficult and tedious to enumerate all the places, at home and abroad, in which cholera either has, or is alleged to have, appeared up to the present time; and it would be very difficult, if not impossible, to accompany the list by such reliable chronological and statistical data as would afford a full and precise record of the events which constitute the history of the epidemic up to the present time. It will suffice to repeat what we have already said, that cholera is very widely distributed and is still slowly spreading abroad. The disease exists in Russia, Bulgaria, Germany, Austria-Hungary, Galicia, the Netherlands, France, Belgium, Italy, Smyrna, and lastly, in Constantinople; for since our last report cholera is stated to have broken out in a lunatic asylum at Scutari, where 20 cases and 5 deaths have already occurred. It may be remarked incidentally that very localised explosive outbreaks in public or municipal institutions—such as gaols, lunatic asylums—and small villages have formed a notable feature of the present epidemic, as they frequently do in all epidemics. As regards this country, we have to chronicle since our last report outbreaks or isolated cases at Grimsby and Hull, and, it is alleged, at Bradford, Sheffield, Rotherham and Belfast.

A cholera bulletin, issued at St. Petersburg on the 5th inst., shows that in the province of Podolia—which has been heavily afflicted this year—there were 1229 cases and 604 deaths from Aug. 19th to 26th. From Aug. 20th to 26th the following returns are given: Orel, 639 cases and 243 deaths; Kieff, 740 cases and 284 deaths; Minsk, 232 cases and 101 deaths; Poltova, 283 cases and 127 deaths; Kharkoff, 182 cases and 87 deaths; Grodno, 187 cases and 59 deaths; and Kalisch, 114 cases and 61 deaths. In the Don territory, 132 cases and 66 deaths occurred between Aug. 27th and Aug. 29th. At St. Petersburg there have been 26 cases and 13 deaths from Aug. 31st to Sept. 2nd, and at Moscow 103 cases and 57 deaths from Aug. 27th to Aug. 30th. A notable point in the above returns is the large increase of the epidemic in Podolia, where the number of deaths has been more than doubled since the issue of the last bulletin.

From Berlin we learn that a few cases of cholera have from time to time occurred in that city and have been admitted to the Moabit and Friedrichshain Hospitals. There were 8 or 10 cases of cholera under treatment on the 5th inst., in addition to several suspected cases under medical surveillance. Cases have also been reported to the Imperial Office of Health at Schuliby on the Vistula; at Emmerich, at Meiderich and Neuwied in Rhenish Prussia; at Andernach on the Rhine and elsewhere. It may be mentioned that a severe outbreak of dysentery occurred at Tilsit in East Prussia—106 cases and 7 deaths; and the garrison there had not escaped the disease, which does not seem to have been cholera.

According to telegrams from Bucharest the cholera epidemic is decreasing in all the infected towns and provinces. From Varna we learn that cholera has made its appearance at Giurgevo, where 13 cases and 3 deaths occurred on Sept. 2nd. At Sulina it was on the increase. More than 600 cases had occurred in Danubian ports. The town of Kalifa was infected and the disease had broken out at Bucharest.

From Vienna, according to the latest accounts, cholera was spreading in Galicia in a northward direction, but the number of fresh cases in that country and in Hungary was diminishing. On the 1st inst. there were no cases of cholera under treatment in the Cholera Hospital at Vienna. The town of Stanislau, in the district of Sanok, and fifteen different communal districts in Galicia are officially declared to be infected; and a few fatal cases have occurred in Cracow. Between the 30th and 31st of last month there were 138 cases and 87 deaths registered in the infected districts of Hungary, where the sanitary officials appear to have met with much opposition, owing to the ignorance and prejudices of the population.

The outbreak at Smyrna, according to Turkish bulletins, appears to have been a severe one; there were 69 fresh cases and 53 deaths from the 28th to the 31st ult., and 48 fresh cases and 42 deaths during the last three days.

The total number of cases in Rotterdam from the 21st ult. to the 2nd inst. was 15, of which 11 were fatal. There have been a few cases at Amsterdam, but it is officially denied that the disease is raging in Holland; every case of cholera or suspected cholera is at once declared. According to the latest report from the Netherlands the disease is still prevailing to a limited extent at Leerdam, at Charlois, at Alten-on-Rhine and Vreeswyk, and at Rotterdam. There have been isolated cases at Zuilichem, Ammerstol, Elden and Wonbrugge, and at Nieuwendyk, in the province of North Brabant.

As regards Italy, the public health at Rome continues to be good; but fatal cases of cholera are still making their appearance at Naples, Cassino, Palermo and in the province of Salerno, Scafati and Albanella.

From France we learn that there is a marked decrease in choleraic disease at Nantes; only 2 deaths occurred there on the 31st ult. Cholera still exists at Prades, but it is rapidly decreasing throughout the south.

From Tangier it is reported that cholera has appeared and still continues amongst the pilgrims detained in quarantine on the island of Mogador, 14 cases and 3 deaths being reported on the 1st inst.

It appears that on the other side of the Atlantic several cases of cholera and 1 death have occurred in Jersey City, opposite New York.

As regards the cases that have taken place in this country we may remark that probably the most notable point is the increased occurrence and fatality of diarrhœa at Grimsby during the month of August and preceding the recognised occurrence of the cases of fatal Asiatic cholera.

At the time of going to press we learn that another death from cholera took place at Grimsby on the 7th inst. and that nearly 70 cases of diarrhœa were notified in the town, 9 of which were returned as choleraic diarrhœa. At Hull diarrhœa prevails also rather extensively, and another death from cholera took place on the 6th. A very suspicious and fatal case occurred at Westminster on the 7th inst., in which the results of the bacteriological examination have not yet been ascertained. The case at Rotherham, according to bacteriological experts, was one of Asiatic cholera.

CHOLERA AT GRIMSBY.

(FROM OUR SPECIAL CORRESPONDENT.)

THE origin of cholera at Grimsby has not yet been ascertained. The fact that there have been a few cases of genuine Asiatic cholera is now no longer disputed. The question that is not yet satisfactorily answered is, When did cholera begin and how many cases have there been? There were in the month of July 26 deaths from diarrhœa, but from Aug. 1st to Aug. 21st there were 82 deaths from the complaint. It is true that 53 of the victims were infants, nevertheless this sudden increase of fatal diarrhœa was alarming, and the chairman of the Sanitary Committee asked for special powers to act.

The authorities of Grimsby naturally fear that their commercial interests may be compromised, and in these financial interests are also involved the interests of public health. If, for instance, the fear of cholera interferes with the fish trade, which is the main industry of Grimsby, a great number of men will be thrown out of employment. Panics and poverty create, too, a favourable condition for the spread of disease. Everyone I have seen has expressed anxiety as to whether the dread of cholera would prevent the sale in various parts of England of the fish landed at Grimsby. In reply to this question I pointed out that the French had still a lingering faith in quarantine and took far more precautions to prevent cholera travelling from place to place than the English sanitary authorities do. Nevertheless, when I went to Portel and to Grand Fort Philippe[1] I found that the only precaution taken was that of dipping the fish baskets in a mercurial solution. Yet at both these places a very severe cholera epidemic prevailed and the whole population was engaged in the fishing trade, most of the fish being forwarded by train to the Paris market. The French authorities throughout France had not prevented the sale of fish from cholera-infected ports, although they took precautions, notably at frontier towns, against travellers which the English authorities had never attempted to apply.

When the cases of diarrhœa at Grimsby became more and more numerous and fatal a bacteriological analysis was obtained with respect to two patients, and in both instances Dr. Klein declared that they were cases of genuine Asiatic cholera. It was at this stage that a ship was fitted out for seaborne cases and a hospital was provided on land for home cases, posters were placarded in different parts of the town, giving directions as to the precautions to be taken, and more energetic methods of disinfection were applied. Formerly patients were isolated in their own homes, but now they are at once removed to the cholera hospital; and a house has been rented which will serve as an observation refuge for the families of the patients. All this, of course, involves the town in very considerable expense. The disinfection is also a costly process. Though there is a stove for disinfection by steam under pressure, the authorities generally burn all the bedding and articles of clothing which are likely to be contaminated. They then compensate the owners for what has been destroyed. All this is expensive. The local authorities claim that they have spared neither time nor money to ensure perfect disinfection. The mayor, the chairman of the Sanitary Committee and other members of the Town Council, in answer to my questions, argued that, though there had been a great deal of diarrhœa, the same had occurred in many other towns in England—notably at Leeds and Scarborough. They had, therefore, no more reason to suspect the presence of cholera at Grimsby than in many other towns where there has been an exceptional prevalence of diarrhœa. They claim that Grimsby is a very healthy town. It is a newly constructed town and has a water-supply of the purest quality. The water is drawn from an artesian well and is delivered under pressure throughout the town. There are hardly any private wells. Certainly there were no wells in the district where the first authenticated cases of cholera occurred.

The fact that many of the deaths attributed to diarrhœa may have been cases of cholera will render it very difficult to ascertain how the disease commenced. I hope to obtain a history of the earliest cases, which may perhaps throw some light on this important subject; but it will require some time to go fully into the details, and I have not been long enough on the spot to deal with such a complicated problem.

Though I have not yet investigated the history and details of the first cases, I have been able, with the courteous permission of the town authorities and the assistance of the sanitary clerk, to see the list of all the notified cases. The list is a lengthy document and will be of great service in the study of the epidemic. It embraces all the cases that have been notified as suspicious and presents the same confusion with regard to nomenclature which I found to exist abroad. In France there was *cas suspect* or *gastro-entérite*, or at the very worst choleriform diarrhœa. Now at Grimsby the first term used was "cholera nostras," then "choleraic diarrhœa," and after that "cholera"; and finally in a single instance "Asiatic cholera" was reported. The first case noted was on Aug. 11th; there were 2 other cases on the 20th and 24th, and 2 cases on the 26th. All 5 cases were reported as being cholera nostras and all the 5 patients died. On the 26th there was a sixth case described as cholera nostras, which recovered, and 1 case was reported as diarrhœa and 5 cases as choleraic diarrhœa, which likewise recovered. On the 27th 1 case of cholera nostras ending in death occurred and 2 cases of choleraic diarrhœa, of which one was fatal. On the 29th the first case occurred which was reported as being cholera pure and simple. The patient died. On the 31st 2 cases of choleraic diarrhœa and 3 cases of cholera nostras were recorded. Though none of these 5 cases were described as being cholera, yet all the patients died. On Sept. 1st, it is important to note, there were 5 cases of typhoid fever notified, and also 2 cases of diarrhœa, 3 cases of choleraic diarrhœa and 2 cases of cholera. The case of cholera, however, recovered, but one case which was described as diarrhœa and another as choleraic diarrhœa resulted in death. On Sept. 2nd there were 2 more cases of typhoid fever and 1 case of scarlet fever, as well as 1 case of cholera nostras, 2 cases of diarrhœa, 10 cases of choleraic diarrhœa and the one case that is set down as Asiatic cholera. The latter died; one of the patients suffering from diarrhœa died and there were 2 other deaths—in all, 4 deaths on that day. On Sept. 3rd there were 2 cases of typhoid fever, 4 cases of diarrhœa and 3 cases of choleraic diarrhœa, but there were no deaths. On Sept. 4th there were 1 case of cholera nostras, 1 case of diarrhœa, 3 cases of choleraic diarrhœa and 1 case of cholera. Two patients died. Finally, for Sept. 5th, there were reported 1 case of cholera nostras, 7 cases of diarrhœa, 7 cases of choleraic diarrhœa and 2 cases of typhoid fever. No deaths occurred. The statistics do not go beyond Sept. 5th. Altogether, from Aug. 11th to Sept. 5th there have been notified 1 case of scarlet fever and 11 cases of typhoid fever. None of these cases have ended fatally. Then there were notified in all 12 cases of cholera nostras, 17 cases of diarrhœa, 35 cases of choleraic diarrhœa, 4 cases of cholera and 1 case of Asiatic cholera. These cases have resulted in 21 deaths. I am sorry to have to add that to-day (Wednesday) there seems to be a slight recrudescence of the disease; new cases have been reported and there has been another death.

The Local Government Board have issued the following regulations to the urban and port sanitary authorities in view of the possible spread of cholera, and in the term "cholera" is included choleraic diarrhœa. The medical officer of health shall advise the local authority concerning these regulations and superintend their execution. In each district or subdivision a qualified medical practitioner will be the "medical visitor" and will have such assistants as he requires. The Poor-law medical officer, if not appointed visitor, will *ex officio* be an assistant. The duties of the visitor and his assistants are to visit the poor districts where the disease is prevalent, to give medicines which are urgently required, and to investigate insanitary conditions.

[1] See THE LANCET, March 4th and 11th, 1893.

Each visitor must report in an appropriate book daily to the medical officer of health for the information of the local authority. Immediately on the receipt of such report the local authority shall attend to the remedying of all unwholesome conditions.

The medical visitor will communicate, when necessary, cases of destitution to the relieving officer. The local authority shall provide free dispensaries, which are to be open day and night, and to be properly officered. The names and addresses of persons treated are to be sent to the medical visitor. In the case of a patient suffering from cholera or diarrhœa being without medical aid the local authority shall provide such and the necessaries involved. They shall also provide competent nurses to help the visitor. If proper hospital accommodation is required the local authority shall provide it, as well as ambulances, litters &c., provided all the authorities concerned coöperate. The local authority shall also provide houses of refuge for healthy persons if the medical officer of health deems such to be necessary. If a patient suffering from cholera cannot be sufficiently isolated he must be removed to hospital. The local authority shall provide sufficient disinfectants and attend to disinfection generally. Property which is necessarily destroyed will be replaced at a reasonable cost. The authorities or owners of waterworks must take steps to render the water supplied safely potable. The local authority must arrange with undertakers &c. for the speedy burial of those persons who die from cholera. No assembly of persons in the house of death or "waking" shall be allowed. The immediate removal of the corpse from dwelling rooms must be effected and its proper custody provided for by the local authority. The medical officer of health must make a daily return, for which there is a special form. Finally, the local authority shall from time to time issue and distribute necessary advice and information to assist in checking the spread of the disease.

HARWICH.

On my way to Grimsby I stopped to make some inquiry at Harwich. Amongst the persons who have suffered from cholera at Grimsby is the stewardess of a steamer trading between Grimsby and Rotterdam. At Harwich there are passenger steamships arriving every day from both Rotterdam and Antwerp. As there are undoubtedly cases of cholera in both these towns I was anxious to ascertain if any precautions were now applied. This I found was not the case. The Harwich Sanitary Committee met last Saturday and discussed the matter. They possessed no official information as to the existence of cholera at Rotterdam and Antwerp, and decided to ask for advice from the Local Government Board. In the meantime the ships are not inspected and there is no watch kept over the passenger traffic, at least on this side. I was, however, assured that at Rotterdam a medical man is present when the passengers embark and who watches to see that no person who is ill goes on board. This applies only to the passengers who have been staying at Rotterdam and who embark at that town. If they take the train to the Hook of Holland or arrive there from any other part of the world they can go on board the Harwich steamer without any kind of inspection. On the English side, as already stated, there is no one to watch them disembark; yet a somewhat severe control was exercised at Harwich last year from Aug. 26th till close upon Christmas. All the ships were inspected in the harbour, and before they were allowed to touch the quay, the medical officer went on board. The passengers and crew were also inspected by him and he took the names and addresses of those who came from infected districts, and sent warnings to the authorities of the places where these persons were about to reside. Everything is ready at Harwich to resume this service. A hospital ship has been fitted up and a second hulk has been bought to serve, if needed, as a supplementary floating hospital. There is also a hospital on land ready for the reception of patients should the disease break out.

HULL.

At the moment of going to press, we learn that there exists in Hull a large prevalence of diarrhœa, and that another death took place there on the 6th inst. The Local Government Board appear to have great confidence that every measure of prevention that can properly be adopted is being carried out under the supervision of the medical officer of health, Dr. Mason. Depôts for medicine and medical attendance have been established in the town, where gratuitous help, remedies and disinfectants can be obtained, and the Corporation are paying the usual notification fee to get information of every case of diarrhœa. All the medical practitioners in Hull have undertaken to use the telephone in cases of any aggravated malady.

LONDON.

A very suspicious case, which terminated fatally, occurred on the 7th inst. in Westminster, and has seriously engaged the attention of the Local Government Board. The board has directed one of its medical officers to attend the post-mortem examination for the purpose of collecting materials to submit to bacteriological examination.

ROTHERHAM.

The case which was reported last week as a doubtful case, has been submitted to bacteriological examinations, and has been pronounced by the Local Government Board to be unquestionably a case of Asiatic cholera. One of the medical officers of the Local Government Board will visit Rotherham to-day (Friday) to confer with the Medical Officer of Health.

CHOLERA AT ROTTERDAM.

(FROM OUR SPECIAL CORRESPONDENT.)

No Concealment attempted.—No apparent Foreign Importation.—History of the First Cases.

ON reaching Rotterdam my first visit was to the British Consul. This I deemed necessary in view of the statements made in various newspapers to the effect that cholera in Holland was more widespread and fatal than had been officially acknowledged. Such an accusation with respect to several other nationalities would very probably prove to be correct; but it is not likely to be true in Holland. Where a locality can protect its commercial interests by concealing cases of cholera, such concealment will probably be attempted if the local authorities depend on local influences for their election; but in Holland, as I have already explained (see THE LANCET, July 15th, 1893), the sanitary power is centralised; the sanitary authorities derive their power from the Crown and are altogether independent of local influences. The Dutch sanitary authorities are quite as concerned in protecting the nation as a whole as in serving the interests of the town where they happen to be located, consequently I was quite prepared to hear that the Consular corps had no complaint to make as to their action. Mr. Turing, Her British Majesty's Consul at Rotterdam, assured me that this year as well as last he had received the fullest information and that there had never been any endeavour made or inclination manifested to conceal what had occurred. Even on the day of my visit information had been received at the Consular office of thirteen cases of cholera at Rotterdam between Aug. 21st and 31st. On the same day a fourteenth case happened, and this at the Sailors' Home. The importance to Great Britain of obtaining prompt and complete information concerning such a port as Rotterdam need hardly be pointed out. The British Consul informed me that, according to his statistics, the number of sailing ships which entered the harbour of Rotterdam in the course of the year 1892 amounted to 411, and of these 117 were British. Then there were 4112 steamships, and of these more than half—that is, 2671—were British vessels. If a severe epidemic prevailed in the port of Rotterdam it would certainly very materially affect British shipping interests and increase the risk of the importation of cholera into Great Britain.

Under these circumstances the few cases of cholera that have occurred deserve to be carefully observed; but first it is necessary to state that, though there was cholera at Rotterdam last year, there was no general epidemic. The first cases occurred a little later in the year—namely, on Sept. 7th—instead of, as on the present occasion, on Aug. 21st. Cases occurred last year at rare intervals till close upon Christmas, but though the disease was present for so long a time it only caused 27 deaths in all. What perhaps renders the present outbreak more dangerous is the fact that last year cases of importation were clearly proved, whereas this year

cholera seems to be of spontaneous growth; this, however, may be more apparent than real. The first case, or at least the first officially recognised case, occurred in the Haringvliet haven. A bargewoman and her child, both living on board, were taken ill. The barge had been in that particular dock for four days, but it had been in Rotterdam for at least a fortnight. There is therefore nothing to show that the disease was imported from elsewhere. Two days previously—that is, on Aug. 19th—a child died of what was thought to be intestinal catarrh. Perhaps there was a mistake and it might have been an attack of cholera. If so this does not alter the case, as there is no evidence to show that the disease was contracted abroad. During the night of Aug. 21st a second case was reported on board a German barge that came from the Rhine. The barge was moored in the river Maas and had been a long time at Rotterdam. It seems most probable that persons living on barges had drunk water from the river &c. or from the docks and that this water was contaminated. Such contamination might have been due to some slight and unobserved case or cases of cholera on board ships coming from foreign infected ports; but it may also have been due to a revival of last year's germs, and this would be more serious as indicating a tendency on the part of the disease to become endemic. In any case, of the few victims known the majority actually lived on the water or worked all day long on boats.

On Aug. 22nd, at No. 68, Crispynlaan Strasse, a dock labourer fell ill and died of cholera. Though poor, the house he lived in was clean and in fairly good sanitary condition. Everything that could be easily burnt was destroyed. The housekeeper and the children who lived in the house were sent to an observation hospital or sanatorium and kept there for five days. During this period the woman fell ill and was at once sent to the cholera hospital, where she soon recovered. It is doubtful whether she suffered from genuine Asiatic cholera, nevertheless the case is officially recorded as one of cholera. On the 23rd a bargeman living in the Boag Strasse fell ill and died. His wife and four children were placed under observation, but none of them were attacked. Then in the Binnenveeg Strasse there was a man aged seventy-nine who was attacked and his case is officially recorded as one of cholera, though he did not suffer much and soon recovered, which is somewhat remarkable for a man nearly eighty years of age. Finally, in the Nieuwsteig another bargeman was attacked by cholera. These cases and the one at the Sailors' Home were the only ones occurring on shore; the remainder of the fourteen patients were taken ill on board their barges.

CHOLERA IN THE DANUBE.

(FROM A CORRESPONDENT.)

SINCE the despatch of my last notes there is nothing serious to report. On the contrary, people coming from the different towns on the Lower Danube report the condition of things as being better. This they attribute to the energetic measures adopted by the sanitary authorities, acting under instructions from Dr. Felix, chief of the Sanitary Board at Bucharest. According to reports coming from individuals arriving from the different infected towns, only the ill-fed, dirty and ignorant portion of the population are those attacked by the disease. It is really wonderful that we have not had any case here up to the present, for we have here refugees in the shape of filthy and filth-feeding Hamals and labourers in numbers, most of them seeking passports from the Turkish Consulate for passage to Constantinople. It is a pity that the authorities allow these people thus to travel; it is almost inviting the disease to spread.

Just as I am writing, authentic news has arrived of the death of one man at the Mejedia Lazaret. This man arrived from Fetesti, on the left bank of the Danube, where the disease is prevalent, and was ill on his arrival. He was at once taken to the lazaret. Mejedia is only one hour (sixteen miles) from this by train. The weather during the daytime is still very oppressive, but the evenings are cool and bracing. The general health of this part is extremely good.

Kustendji, Aug. 24th, 1893.

CHOLERA IN RUSSIA.

(FROM OUR OWN CORRESPONDENT.)

UP to the present two cases of cholera only are officially admitted to have occurred in St. Petersburg. The first case was that of a soldier of the Izmailof Regiment, who died on Aug. 3rd (old style). On July 31st he visited the camp at Krasnoe Selo and returned to town the same day. On the following day he was seized with the symptoms of cholera and died two days later in the Alexander-Semenofski Military Hospital. The choleraic nature of the disease was proved by bacteriological examination of the dejecta and by the post-mortem appearances. As there have been no cases of cholera in the great camp at Krasnoe Selo (twenty-four versts from St. Petersburg), and as the deceased had visited no other place outside the capital, the source of infection remains unknown. The second case was that of a boy who arrived in St. Petersburg on Aug. 4th from a village in the government of Kostroma. On the same evening he complained of feeling ill and on the following day the symptoms of cholera developed. He was admitted into the Obuchovski Hospital, where comma bacilli were found in his dejecta. The boy has since recovered. In each of these cases strict precautions were taken to prevent the spread of the disease in the neighbourhood whence the patients were taken and they have so far been successful as no further cases have occurred. The cholera epidemic continues to spread in other parts of Russia. According to the latest returns it is worst in the governments of Kief, Nijni Novgorod, Samara, Podolia, Orel, Kursk and the Don Cossack territory. The governor of Nijni Novgorod telegraphs that the epidemic is rapidly diminishing there. It does not appear to have affected the fair in any way. In Moscow the epidemic is slowly declining. The death-rate in Moscow during the month of July was excessively high, but is now diminishing. In the four weeks ending July 31st the death-rate in Moscow was respectively 53·3, 55·7, 48·7 and 47·6.

A considerable number of cases of cholera has been reported as occurring in St. Petersburg during the past week. The municipal authorities have recommenced the publication of daily bulletins, such as were issued during last year's epidemic. In the week ending at noon on Aug. 19th (old style) there were admitted into the municipal hospitals in St. Petersburg 37 male patients with cholera, of whom 13 died, and 3 female patients, of whom 2 died. From noon on Aug. 19th to Aug. 20th there were 6 fresh cases admitted and 3 deaths from cholera; 2 patients were discharged cured, leaving 30 persons in hospital suffering from the disease. The cases are confined to the poorer classes of labourers.

The last cholera bulletin for the whole of Russia, containing the returns received by the Medical Department between Aug. 15th and 19th, indicates a still further spread of the disease. The bulletin is as follows:

			Cases.	Deaths.
Vladimir (government)	from Aug.	8th to 14th	337	116
Lomza	"	" " "	116	64
Ekaterinoslav	"	" " "	72	27
Tula	"	" " "	358	109
Kharkof	"	" " "	182	87
Don Cossack (province)	"	11th to 14th	172	93
Kuban	"	" "	37	16
Volhynia (government)	"	1st to 7th	124	59
Kazan	"	" " "	390	104
Kursk	"	" " "	493	181
Kutais	"	" " "	21	7
Perm	"	" " "	9	5
Podolia	"	" " "	965	285
Saratof	"	" " "	38	9
Ufa	"	" " "	6	3
Tobolsk	"	" " "	13	3
Kherson	"	10th to 17th	185	109
Tereb (province)	"	6th to 9th	2	1
Moscow (town)	"	11th to 14th	102	58
Kertch	"	13th to 17th	32	20
St. Petersburg	"	12th to 19th	40	15

One suspicious case was reported from the government of Baku and 3 from that of St. Petersburg.

St. Petersburg, Aug. 22nd (Sept. 3rd).

FOOTBALL CASUALTIES.—Last week, whilst playing in a practice match, the captain of the Keighley Shamrocks "A" team fractured his clavicle. A similar accident occurred to an Armley half-back in a match, and also to a Leeds forward whilst playing at Headingley. A boy aged thirteen years fractured one of his legs in a match at Harehills-lane, Leeds.

THE REPORT OF THE SELECT COMMITTEE ON DEATH CERTIFICATION.

THE first and second reports from the Select Committee on Death Certification have been issued during the past week and have been presented to Parliament. The first report alludes to the evidence taken by the Committee, of which we have given from time to time full reports. In the second report it is stated that the Committee have sat on twenty-one occasions and have examined thirty-two witnesses, representing the views of those who were concerned for or interested in the working of the law relating to death certification and registration.

THE DEFECTS OF THE EXISTING LAW.

The report proceeds to detail the defects of the existing law and points out that the class of certified deaths leaves much to be desired in the way of affording a record of the true cause of death. The practice exists amongst a certain class of medical practitioners of giving death certificates on forms specially printed for their own use and in which all mention of attendance is omitted, the object being to enable a practitioner to give death certificates in cases which he has never attended in life. Amongst the class of certified deaths are to be found many deaths attended by unqualified assistants and certified by qualified practitioners who may never have seen the cases at all or who may not have seen the patient for weeks or months prior to the occurrence.

IMPORTANCE OF CERTIFICATION.

A striking illustration of the importance of certification is afforded by figures supplied by Dr. Russell of Glasgow, which show that during certain years 27·5 per cent. of the illegitimate children born die under one year of age, against 13·7 per cent. of the legitimate, and that of the deaths of the illegitimate children under one year of age 21·6 per cent. were uncertified, against 10·9 per cent. certified. In other words, of the 1863 illegitimate children who in the five years died in Glasgow under one year of age, 940 would presumably have lived had they received the same amount of care and attention as would have been accorded to them had they been born in wedlock.

THE EXISTING LAW ON THE SUBJECT.

The report then proceeds to recapitulate the law of death registration in the United Kingdom, giving in separate paragraphs the conditions which exist in England and Wales, in Scotland and in Ireland respectively.

"UNCERTIFIED DEATHS."

In regard to the deaths not medically certified, the Committee state that it is satisfactory to note that there is unmistakable evidence to the effect that the number of uncertified deaths registered—i.e., those without a certificate of a medical practitioner or of a coroner,—though still considerable, has been diminishing of late years, and in the last report the proportion of uncertified to total deaths registered in England and Wales was only 2·7 per cent.

As regards Ireland the figures as to certified and uncertified deaths cannot be given, but it appears that in the year 1891 the number of deaths registered where the causes were unspecified or ill-defined was 5803 out of a total of 85,999, or 6·7 per cent.

As regards uncertified deaths in Scotland, a great decrease has of late years taken place. Their proportion was formerly very high, and it is still much larger than in England, being, according to the return for 1890 of the Registrar-General for Scotland, 4569 out of a total of 79,004 deaths, or 5·8 per cent.

CERTIFICATES OF CORONERS AND PROCURATORS-FISCAL.

In considering the existing procedure concerning deaths which are reported to the coroner, the report says it may be doubted whether the preliminary inquiries connected with a coroner's inquest should be entrusted to an official who cannot be expected to possess the requisite qualifications for the proper performance of the duties. In criticising the verdicts given in cases which have been the subject of investigation by a coroner, the report states that these are said to be not infrequently far from satisfactory, and as instances of ludicrous verdicts resulting from the inquiries of the coroner Dr. Ogle's evidence is quoted. He says:

> "One verdict came before me a little time ago which was this: 'A man died from stone in the kidney, which stone he swallowed when lying on a gravel path in a state of drunkenness.' That was given as a verdict. I thought some joke had been played, and I wrote down about it, and found it was an absolute fact. Another one is this: 'Child, three months old, found dead, but no evidence whether born alive.'"

It would appear that in some cases, owing to the failure of the coroner to take medical evidence, he is not in a position to include in the verdict a statement of the cause of death, even if he desired to do so. A coroner's jury is empowered to order a post-mortem examination of a body if they think it necessary, but usually they are very much guided by the coroner in this matter, and are disinclined to take a course which may be opposed to his wishes. The Committee gather from the evidence taken by them that the reluctance of the coroners and procurators-fiscal to order post-mortem examinations arises from the close scrutiny to which their accounts are submitted and the liability that costs incurred in connexion with such examinations may be disallowed. For the purposes of the General Register Offices it seems desirable that the coroner's certificate should be made out in a form giving the particulars that the Registrar-General considers should be supplied.

REGISTRATION FROM INFORMATION OF "QUALIFIED INFORMANTS."

The Committee then report on the procedure in cases registered upon the information of "qualified informants." They state that the information obtained in these cases is sometimes far "from trustworthy," "not only untrue, but is known to be so by the informant," and they are convinced that a system which permits registration to take place upon information so obtained cannot be other than dangerously defective. In this connexion the report continues: "Your Committee, fortified with the weighty opinions of the witnesses who have appeared before them, have arrived at the conclusion that uncertified deaths should, as a class, cease to exist, and that means should be devised whereby a medical certificate should be obtained in every case not certified by a registered medical practitioner in attendance."

SPECIAL MODES OF PROCEDURE.

Special modes of procedure are adopted in Manchester, Edinburgh and Glasgow, which have frequently led to the detection of fraud and foul play.

SUGGESTIONS OF THE COMMITTEE ON PROCEDURE.

The Committee have had urged upon them the desirability of the appointment of medical officials throughout the country, whose duty it should be to inquire into the cause of all deaths not certified in the usual way by a medical practitioner in attendance. Several proposals have been made as to how this should be carried out: (1) to have these officials associated with coroners. This proposal had been supported by the opinions of Sir Edward Chadwick and Dr. Farr; some witnesses have thought (2) that there would be considerable advantage in conferring the appointment upon medical officers of health, and others (3) that the medical inquiry into the causes of uncertified deaths should be carried out by the police-sergeant of the district. After considering these proposals the Committee have arrived at the conclusion that the appointment of medical officials for investigating all cases of uncertified deaths is one which deserves their support, and they are of opinion that the medical officer of health for each district should discharge this duty, with power to appoint a deputy, who should be a registered medical practitioner. The Committee, however, think that it is a question for consideration whether in very many cases it might not be practicable to require a medical man upon appointment to the offices of medical officer of health and "medical certifier"—assuming these offices to be combined in one person—to devote the whole of his time to the duties of such offices.

DEATHS CERTIFIED BY A MEDICAL ATTENDANT.

The Committee concur in the opinion which has been expressed by two witnesses, Dr. Tatham and Dr. Rentoul, that no sufficient reason has been shown for disturbing the existing regulation under which a medical practitioner who has been in attendance upon a case terminating in death is required to give a certificate of death, if he is able to do so; but they point out that certifying the cause of death "to the best of his knowledge and ability" is subject to the following

objections. 1. To supply a certificate from previous knowledge of the case without verification of death affords facilities for fraud. 2. Circumstances might have transpired subsequently to the last occasion of seeing the patient and entirely unconnected with his disease. 3. In some instances a skilled observer only would be able to pronounce whether life was extinct.

In reference to these points the Committee are of opinion, after consideration of the evidence bearing upon the question, that in every case of death in which a medical practitioner has been in attendance he should be required to certify not only to the cause but also to the fact of death. Before giving his certificate he should be required to personally inspect the body, except in cases where on the ground of distance, or other sufficient reason, he is unable to make such inspection. He should, however, before issuing a certificate in such cases be furnished with a certificate signed by two persons, neighbours of the deceased, one of whom should be a householder, verifying the fact of death. He should also append to the certificate given in such a case a statement of the reasons which have prevented him making a personal inspection of the body.

THE CERTIFICATE TO BE FORWARDED TO THE REGISTRAR.

The Committee think that death certificates should be forwarded by the medical attendant directly to the registrar of the district. They see no reason to suppose that medical men would experience any difficulty in ascertaining the name and address of the registrar to whom the certificate should be forwarded, and if (as they suggest below) a fee should be payable to medical men in respect of each death certificate issued by them they would have no substantial cause for complaint as to the trouble involved in their being required to forward the certificate directly to the registrar.

REMUNERATION FOR DEATH CERTIFICATES.

The Committee in the report point out that a medical man is not legally entitled to any payment out of the public funds in respect of his services for issuing a certificate of death. The State has imposed this as a duty upon a profession without providing any remuneration, and there appears to be a general feeling amongst the members of the medical profession that in this matter they are hardly treated. If, the report continues, the duties of inspecting a body and of transmitting a certificate to the registrar be imposed upon a medical man in addition to the granting of a certificate, then additional reasons would exist for awarding some payment in respect of these services, and the Committee are of opinion that the precedent of the Infectious Diseases Notification Act, 1889, should be followed, and that a fee of 2*s.* 6*d.* should be payable to a medical man out of public funds for every death certificate issued by him.

FRAUDULENT DEATH CERTIFICATES.

The report then deals with the facilities with which forms of death certificates can be obtained for fraudulent purposes by unscrupulous persons, and they are of opinion that every care should be taken in the distribution of these forms.

FRIENDLY SOCIETIES AND DEATH CERTIFICATES.

At the foot of the form of the certificate now issued by the General Register Office there is a note to the effect that a certificate given upon such form is intended for the sole use of the registrar. These, however, have been frequently sent to insurance offices by medical men for the purpose of the paying over of the insurance money, and this in many cases leads to fraud. The Committee are of opinion that a medical practitioner should be expressly debarred from giving more than one certificate in respect of the same death and that compliance with such a regulation should be enforced by penalties. The death certificate once given should be regarded as State property, and any copy required thereof by the representatives of the deceased should be obtained from the registrar on payment of a fee.

UNIFORMITY IN DEATH CERTIFICATION.

The Committee recommend that a form of certificate to be used in all cases should be prescribed, and that registrars should be empowered to register a death only in those cases in which a certificate in the prescribed form is presented to them. The payment of a fee to the medical practitioner for the certificate would facilitate this proceeding.

PROPOSED MODIFICATIONS.

The Committee have thought that it is desirable to define as precisely as may be possible the circumstances in which a medical man in attendance on a case should not give a certificate of death, and it appears to them to be proper that he should not do so in any case in which he is unable to certify that the death was due to disease. In all cases in which he does certify he should include in his certificate a statement pointing to the absence of accident, poison, violence or criminal neglect. In the opinion of the Committee the certificate should on its face show: 1. That verification of death has taken place and that the body has been identified. 2. That attendance "during last illness" should be defined as meaning personal attendance by the person certifying upon at least two occasions, one of which should be within eight days of death. 3. That it is desirable that the words "primary" and "secondary" should either be omitted from the form as leading to confusion in stating the cause of death or that they should be defined in a footnote as meaning the order of the development of the diseases as they occurred. In the event of the entire omission of the words, some other terms should be substituted so as to secure the declaration in all cases of associated diseases or associated traumatic conditions. 4. That a uniform terminology should be adopted in describing diseases in the death certificate, and they think that the practicability of the suggestion made with this object in view should receive careful consideration. 5. That medical men should be required to furnish the Registrar-General, as far as possible, with such information as may be necessary to complete certificates given by them.

STILLBIRTHS.

The facilities that exist for the disposal of bodies of children said to be stillborn without the production of scientific evidence of stillbirth afford opportunities for easily getting rid of the bodies of children who have lived and have met their death by foul means. There is reason from the evidence to think that a great number of cases of crime are concealed under statements that children are stillborn. Any person who cares to incur the risk of a penalty of £10 can give a certificate of stillbirth in a case in which a child's death has been effected by violence or neglect, and apparently there would be little chance of detection.

The Committee consider that the system of registration which they have advocated in the case of ordinary deaths should be adopted in the case of stillbirths—i.e., that registration should take place upon the production of a certificate from either (1) the medical man in attendance; (2) the medical certifier for the district; or (3) the coroner. Upon registration the registrar should be required to issue a burial certificate or order, which should be the only authority for the burial, and it should be made a penal offence to bury or otherwise dispose of the body of a stillborn child without the production of such order. It appears from the return as to stillbirths already referred to, that there is no general agreement in foreign countries as to the definition of a stillbirth; but the Committee think that the term of seven months' gestation, as accepted in Germany and Denmark, affords a convenient starting point for registration.

SUMMARY OF PRINCIPAL RECOMMENDATIONS.

The report concludes with the following recapitulation of its chief recommendations:

1. That in no case should a death be registered without production of a certificate of the cause of death signed by a registered medical practitioner or by a coroner after inquest, or in Scotland by a procurator-fiscal.

2. That in each sanitary district a registered medical practitioner should be appointed as public medical certifier of the cause of death in cases in which a certificate from a medical practitioner in attendance is not forthcoming.

3. That a medical practitioner in attendance should be required, before giving a certificate of death, to personally inspect the body, but if, on the ground of distance or for other sufficient reason, he is unable to make this inspection himself he should obtain and attach to the certificate of the cause of death a certificate signed by two persons, neighbours of the deceased, verifying the fact of death.

4. That medical practitioners should be required to send certificates of death to the registrar, instead of handing them to the representatives of the deceased.

5. That a form of certificate of death should be prescribed, and that in giving a certificate medical practitioners should be required to use such form.

6. That it should be made a penal offence to bury or otherwise dispose of a body, except in time of an epidemic, without an order from the registrar stating the place and mode of

disposal, which order, after it has been acted upon, should be returned to the registrar who issued it.

7. That it should be made an offence to retain a dead body unburied or otherwise legally disposed of beyond a period not exceeding eight days, except by permission of a magistrate.

8. That the practice of burial in pits or common graves should be discontinued.

9. That stillbirths which have reached the stage of development of seven months should be registered upon the certificate of a registered medical practitioner, and that it should not be permitted to bury or otherwise dispose of the stillbirth until an order for burial has been issued by the registrar.

10. That, subject always to the discretion of the Crown Office, the result of precognitions taken by the procurators-fiscal in Scotland, or the precognitions themselves, should be communicated to the representatives of the deceased when application is made for the same.

THE ARMY MEDICAL DEPARTMENT REPORT, 1891.

IV.—CONCLUSION.

IT only remains for us to deal with the appendix to this report, consisting of some sixty pages. The first paper in the appendix is on the progress of hygiene during the year 1892 by Brigade-Surgeon-Lieutenant-Colonel Notter, Professor of Military Hygiene. After dealing with legislation, literature and the work of societies in connexion with public health, the subject of special points of hygiene is taken up and a full description of the Chamberland-Pasteur filter is given. The results of the experience of this filter in the French army are important. Wherever it has been possible to substitute pure for polluted water, or where in default of this such impure water has been systematically subjected to a filtering process by the Chamberland-Pasteur filter, enteric fever has practically disappeared. In the garrisons of Compiègne, Lemans, Dumfornt, and many others in which this disease has long been prevalent this has been practically found to be the result, only isolated and rare cases occurring. Wherever an epidemic broke out the water-supply was found to be contaminated. The number of cases of enteric fever occurring in the French army have decreased since 1867 by 52 per cent. On Dec. 31st, 1891, statistics showed that 200,000 quarters were supplied with these filters, being 185,000 in France and 15,000 in Algeria and Tunis. There are still 45,000 quarters to be provided with the filters.

Some experiments have been made in the hygienic laboratory, Netley, on the filtering power of the Berkefeld filter, which is made of infusorial earth and is on exactly the same principle as the Chamberland-Pasteur filter. The conclusions arrived at may be usefully given here, as the comparative merits of the filters which are used in the French and German armies respectively are alluded to. The Berkefeld filters appear to possess distinct sterilising action, inasmuch as they are capable of removing bacteria from samples of water passed through them. Their action is practically similar to the Chamberland-Pasteur filters, but whether they possess any superiority over them is doubtful. On the contrary, the bougies are brittle and liable to fracture when moist, and further experimental proof is required to show whether or not the frequent cleansing of the filter by brushing will not wear away the bougie too rapidly, a contingency which we know does not exist in the case of the Chamberland-Pasteur filter. Observations made in this laboratory on the suitability and durability of this filter for military purposes go to show that the life of an individual bougie or filter is, comparatively speaking, short. The filter after much use and soaking in water loses to a large extent its tenacity and tends to become soft and friable. These are defects vital to its adaptability for military purposes, and, so far, it would appear that the same defects are not associated with the Chamberland-Pasteur filters.

Reference is made to some experiments upon bacteria and bacteriological methods which were instituted by Surgeon-Captain R. H. Firth, Assistant Professor of Hygiene at Netley. These were chiefly directed to the determination of specific pathogenic organisms, and particularly the bacillus which is usually associated with enteric fever in drinking waters. As before stated, the observations which have been made at Netley regarding the differential diagnosis of the bacillus coli communis and the enteric fever bacillus are inconclusive and incomplete. As regards the vitality and viability of enteric fever and closely allied bacteria when placed in drinking water, the results so far indicate the ability of enteric fever bacilli to survive in ordinary tap water for more than a month.

We have already alluded to the contribution from the surgical side of Netley by Brigade-Surgeon-Lieutenant-Colonel W. F. Stevenson, Professor of Military Surgery. Under the head of Anæsthetics we may note the following. One patient died under chloroform which was administered from an inhaler. He was about to be operated on for disease of the hip-joint. A small quantity (25 minims) was placed in the inhaler to begin with. After a few whiffs of the drug respiration ceased, the pulse continuing to be strong. Notwithstanding the treatment adopted the patient died; a subsequent post-mortem examination revealed nothing to account for the death. Dangerous symptoms occurred in three cases of chloroform anæsthesia, but fortunately they were not followed by serious consequences.

The report by Brigade-Surgeon-Lieutenant-Colonel C. E. Harrison, of the Grenadier Guards, of his mission to Paris in 1892 to attend the sixth session of the French Surgical Congress, is interesting in various directions, especially with regard to the remarks on the Museum of Pathological Anatomy and of Military Hygiene, and the detailed information about the relative effects produced upon bones by the projectile of a modern rifle, which has an outer casing of hard metal, and of the leaden bullet of the rifle which was formerly used. A brief record is given of the results which were obtained by Professor Delorme in his experiments, in which he was assisted by M. Chavasse.

Surgeon-Captain F. J. Lambkin contributes an article on the Hypodermic Administration of Mercury in the Treatment of Syphilis; Surgeon-Captain J. D. Reckitt one on a successful case of Herniotomy in an Infant aged eight months, suffering from strangulated oblique inguinal hernia; and Surgeon-Captain Grenville E. Moffet a paper on a case of Hæmophilia, in which an interesting genealogical table is given showing the inheritance of the hæmorrhagic diathesis from the maternal great-grandfather.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Huddersfield Urban Sanitary District.—Regarded from the point of view of death-rates, Huddersfield occupied during 1892 a very good position amongst the thirty-three large towns, there being only two—Croydon and Bradford—whose general death-rate was lower, whilst as regards the zymotic death-rate Huddersfield possessed the lowest of all. Dr. James Kaye advises the medical practitioners in his district to always inform the parents of children ill of infectious disease that it is their duty to notify the same, and there is no doubt that dual notification if properly carried out ought to have the effect of awakening the public to their responsibilities. The notification of measles evidently finds favour with Dr. Kaye, and he points out that, amongst other advantages, it would have the effect of gradually impressing upon the poorer classes the serious nature of the disease. Numerous (previously unrecognised) cases of scarlet fever were discovered during the past year in this district. Several of them were peeling freely on their hands and feet, and in one instance a family in this condition had travelled by rail from Bath to Huddersfield. The popularity of the Fever Hospital appears to be in the ascendant, and during 1892 no less than 91 per cent. of the cases notified were there isolated. Dr. Kaye has recently made an inspection of the cowsheds in the borough and as one of the results states that "the Dairies, Cowsheds and Milkshops Order is practically unknown to the farmers and milk purveyors both in theory and practice." A revolting instance is mentioned in the report of a milker who, in his anxiety to cleanse his fingers before milking, spat upon them and dried them on his trousers. It is to be hoped that this practice is not a widespread one.

Plumstead Urban Sanitary District.—During 1892 diphtheria and croup caused forty deaths in Plumstead, which is the highest number yet recorded in this district, although in 1864 there were more deaths in proportion to the population. Dr. Sidney Davies remarks that a larger number of notified cases of scarlet fever are sent into hospital than is the case with diphtheria, and he is inclined to attribute this, in large part at least, to the fact that in diphtheria the disease has often become dangerous even before it has been recognised and that therefore parents are unwilling to part with their children whilst they are in a critical condition. Doubtless this does partly explain the difference, but probably the fact that diphtheria is not regarded as so infectious as scarlet fever is the chief reason why isolation is not so much insisted upon; and certainly our experience would lead us to infer that, in London at least, a considerable number of children suffering from laryngeal diphtheria, and practically *in extremis*, are hurried into the fever hospitals for tracheotomy. In referring to the sanitary condition of the Board schools in his district Dr. Davies states that hitherto he assumed that this might be safely left to the School Board. He has, however, now undertaken the inspection himself and has up to the present discovered one school with serious defects in the flushing arrangements. It seems to us that greater attention might well be given to the sanitary condition of our elementary schools in other parts of the country. To judge from reports which reach us from time to time, there is room for great improvement in this respect. Dr. Davies after discussing the various causes which may possibly be productive of diphtheria in the Plumstead district is inclined to attach considerable weight to the presence of sewer ventilators at the street levels. He regards this as the only factor not common both to Plumstead and to the adjoining district of Woolwich, where there seems to be but little diphtheria. It is of course not unlikely that the presence of sewer ventilators in undesirable positions, such as narrow streets, may give rise to a condition of the fauces peculiarly susceptible to diphtheria, more especially since the Plumstead sewers seem to be both flushed and ventilated in a defective manner. However this may be, the Plumstead sanitary authority will do well to act on Dr. Davies's advice and attend to the condition of their sewers.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6601 births and 4075 deaths were registered during the week ending Sept. 2nd. The annual rate of mortality in these towns, which had been 22·8 and 21·6 per 1000 in the preceding two weeks, further declined last week to 20·6. In London the rate was 19·0 per 1000, whilst it averaged 21·8 in the thirty-two provincial towns. The lowest rates in these towns were 15·5 in Norwich, 15·9 in Portsmouth, 16·7 in Swansea, 16·8 in Plymouth and 16·9 in Bolton; the highest rates were 24·6 in Leeds, 26·0 in Preston and in Sunderland, 26·6 in Liverpool, 27·2 in Wolverhampton and 31·5 in Hull. The 4075 deaths included 1006 which were referred to the principal zymotic diseases, against 1066 and 1026 in the preceding two weeks; of these, 677 resulted from diarrhœa, 73 from whooping-cough, 73 from diphtheria, 63 from measles, 62 from "fever" (principally enteric), 48 from scarlet-fever and 10 from small-pox. The lowest death-rates from these diseases were recorded in Bolton, Bristol, Swansea, Plymouth and Portsmouth; and the highest rates in Gateshead, Wolverhampton, Blackburn, Sunderland, and Hull. The greatest mortality from measles occurred in Huddersfield, Sheffield and Blackburn; from whooping-cough in Brighton; from "fever" in Croydon, Hull, Preston and Sunderland; and from diarrhœa in Salford, Bradford, Burnley, Wolverhampton, Gateshead, Sunderland, Blackburn and Hull. The mortality from scarlet fever showed no marked excess in any of the large towns. The 73 deaths from diphtheria included 56 in London, 4 in West Ham and 3 in Manchester. Four fatal cases of small-pox were registered in Bradford, 3 in West Ham, 2 in London and 1 in Birmingham, but not one in any other of the thirty-three large towns; 144 cases of this disease were under treatment in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital on Saturday last, the 2nd inst., against 221, 209 and 183 on the preceding three Saturdays; 8 new cases were admitted during the week, against 26 and 21 in the preceding two weeks. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital, which had been 2875, 2891 and 2894 at the end of the preceding three weeks, were 2884 on Saturday last; 303 new cases were admitted during the week, against 365 and 341 in the preceding two weeks. The deaths referred to diseases of the respiratory organs in London, which had been 203 and 162 in the preceding two weeks, further declined to 138 last week and were 22 below the corrected average. The causes of 62, or 1·5 per cent., of the deaths in the thirty-three towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Manchester, Oldham, Sunderland and in seven other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Leicester, Huddersfield and Halifax.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 18·5 and 20·3 per 1000 in the preceding two weeks, further rose to 20·7 during the week ending Sept. 2nd, and almost corresponded with the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 15·8 in Greenock and 17·6 in Leith to 22·5 in Dundee and 25·7 in Perth. The 584 deaths in these towns included 67 which were referred to diarrhœa, 21 to whooping-cough, 9 to "fever," 9 to diphtheria, 5 to scarlet fever, 5 to measles and not one to small-pox. These 116 deaths were equal to an annual rate of 4·2 per 1000, which was 0·9 below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of diarrhœa, which had increased from 28 to 95 in the three preceding four weeks, declined to 67 last week, of which 30 occurred in Glasgow, 15 in Edinburgh, and 12 in Dundee. The 21 deaths from whooping-cough showed a decline of 11 from the number in the preceding week, and included 8 in Glasgow, 6 in Edinburgh and 4 in Dundee. The fatal cases of diphtheria, which had declined from 9 to 6 in the preceding three weeks rose again to 9 last week, of which 5 occurred in Glasgow and 2 in Aberdeen. The 9 deaths referred to different forms of "fever," were within one of the number in the preceding week, and included 4 in Glasgow and 2 in Leith. The fatal cases of scarlet fever, which had been 7 and 8 in the preceding two weeks, declined again to 5 last week, of which 4 occurred in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 89 and 66 in the preceding two weeks, rose again to 72 last week, and exceeded by 15 the number in the corresponding week of last year. The causes of 56, or nearly 10 per cent., of the deaths in these eight towns were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 26·7 and 21·8 per 1000 in the preceding two weeks, rose again to 29·1 during the week ending Sept. 2nd. During the past nine weeks of the current quarter the death-rate in the city has averaged 27·1 per 1000, against 21·3 in London and 17·9 in Edinburgh. The 195 deaths in Dublin registered during the week under notice showed an increase of 49 upon the number in the previous week and included 48 which were referred to the principal zymotic diseases, against 31 and 30 in the preceding two weeks; of these, 36 resulted from diarrhœa, 6 from "fever," 5 from whooping-cough, 1 from measles and not one either from small-pox, scarlet fever, or diphtheria. These 48 deaths were equal to an annual rate of 7·2 per 1000, the zymotic death-rate during the same period being 4·2 in London and 4·5 in Edinburgh. The fatal cases of diarrhœa, which had been 12 and 23 in the preceding two weeks, further rose to 36 last week. The deaths referred to different forms of "fever," which had been 10 and 3 in the preceding two weeks, rose again to 6 last week. The 5 fatal cases of whooping-cough showed an increase of 2 upon the number recorded in the preceding week. The 195 deaths registered in Dublin last week included 58 of infants under one year of age and 39 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons considerably exceeded those recorded in the preceding week. Seven inquest cases and 3 deaths from violence were registered; and 43, or more than a fifth, of the deaths occured in public institutions. The causes of 28, or more than 14 per cent., of the deaths registered in the city last week were not certified.

THE SERVICES.

MOVEMENTS IN THE MEDICAL STAFF.

THE following officers have joined at Aldershot for instruction in Bearer Company drill: Surgeon-Lieutenants Spencer, Fowler, Porter, Smith, Goodwin, Collins, Williams, McMunn, Anderson, Bowter, French, Letty, Keble and St. J. Killery. The following have resumed duty on return from leave of absence: Surgeon-Major Riordan, Newcastle; Surgeon-Major McQuaid and Surgeon-Captain Maher, Southern District; Surgeon-Major Sandiford, Clonmel; Surgeon-Captain Ferguson, Dublin. Surgeon-Lieutenant-Colonel Williamson has been appointed to the charge of the Station Hospital, Western Heights, Dover, in succession to Brigade-Surgeon-Lieutenant-Colonel Steele, transferred to Devonport. Surgeon-Major Lyle is transferred from the North-Eastern District to Aldershot and Surgeon-Captain Smith from the Southern District to Aldershot. Surgeon-Captain Donnet has reported himself for duty in the Southern District and Surgeon-Captain Nunnerley has been transferred to Preston. Surgeon-Lieutenant McDermott has been posted to Holywood.

ARMY MEDICAL STAFF.

The undermentioned Surgeon-Captains to be Surgeon-Majors. Dated July 30th, 1893: Arthur M. Davies, H. W. Hubbard, Thomas E. Noding, John R. Yourdi, M.B., John C. Culling, Robert I. D. Hackett, M.D., George T. Trewman, M.B., Henry H. Johnston, M.B., Edmond M. Wilson, Edmund J. E. Risk, William G. Birrell, M.B., Michael Dundon, M.D., Charles W. S. Magrath, M.D., Alfred V. Lane, John W. Beatty, M.D., George E. Weston, George H. Younge, F.R.C.S. Irel., William G. Clements, William Babtie, M.B., Richard F. O'Brien, Charles W. Thiele, M.B., F. P. Nichols, M.B., John McLaughlin, M.D., Stephen H. Creagh, Francis J. Lambkin, William L. Reade, Henry J. Peard, Samuel J. Rennie, John Carmichael, F.R.C.S. Irel., George W. Brazier-Creagh, Francis T. Wilkinson, John Semple and Richard H. S. Sawyer, M.B., F.R.C.S. Irel. Surgeon-Captain William Henry Lendrum, M.D., retires from the Service, receiving a gratuity.

INDIA AND THE INDIAN MEDICAL SERVICES.

Bengal Medical Establishment: To be Brigade-Surgeon-Lieutenant-Colonel: Surgeon-Lieutenant-Colonel George Gilbert MacLaren, M.D. Dated May 1st, 1893. *Bombay Medical Establishment:* To be Brigade-Surgeon-Lieutenant-Colonel: Surgeon-Lieutenant-Colonel Colin W. MacRury. Dated April 12th, 1893. The retirement of Brigade-Surgeon-Lieutenant-Colonel James Byers Thomas, Madras Medical Establishment, is dated May 13th, 1893, and not as stated in the *London Gazette* of Aug. 1st, 1893. The rank on retirement of Brigade-Surgeon-Lieutenant-Colonel George Gilbert MacLaren, M.D., Bengal Medical Establishment, is as now described and not as stated in the *London Gazette* of Aug. 1st, 1893. The following appointments are announced:—Surgeon-Captain R. C. Macwatt, Superintendent of the Central Gaol, Raipur, is appointed to officiate as Civil Surgeon of Raipur, in addition to his own duties, during the absence on leave of Surgeon-Lieutenant-Colonel B. Evers or until further orders. Brigade-Surgeon-Lieutenant-Colonel T. ffrench-Mullen, M.D., I.M.S. (Bengal), Civil Surgeon of Bikanir, is temporarily appointed to hold charge of the current duties of the office of Political Agent in Bikanir, in addition to his other duties. Surgeon-Lieutenant-Colonel A. S. G. Jayakar, I.M.S. (Bombay), Agency Surgeon at Muscat, is temporarily appointed to hold charge of the current duties of the office of Political Agent at Muscat, in addition to his other duties. Surgeon-Major-General Peter Stephenson Turnbull, M.D., I.M.S. (Bombay) will take the place of Surgeon-Major-General J. Pinkerton, M.D., I.M.S. (Bombay) retired with the special additional pension of £250. Brigade-Surgeon-Lieutenant-Colonel J. C. G. Carmichael, 1st Battalion 3rd Gurkha Rifles, in anticipation of promotion to the temporary rank of Surgeon-Colonel, is appointed to officiate as Principal Medical Officer, Bundelkhand and Narbudda Districts, until further orders. Surgeon-Colonel J. Richardson, M.B., Inspector-General of Civil Hospitals, North-West Provinces and Oudh, takes leave for eight months. A good service pension has been conferred upon Surgeon-Major-General P. S. Turnbull, of the Indian Medical Staff.

NAVAL MEDICAL SERVICE.

Staff-Surgeon Thomas Desmond Gimlette has been promoted to the rank of Fleet-Surgeon in Her Majesty's Fleet (dated Aug. 13th, 1893). In accordance with the provisions of Her Majesty's Order in Council of April 1st, 1881, Surgeon Charles Basham d'Eyncourt Chamberlain has been placed on the Retired List. The undermentioned list of Surgeons have been promoted to the rank of Staff Surgeon in Her Majesty's Fleet: Ernest Edward Bray, John Leonard Aherne, B.A., Edward James Biden, Edward Goffe Swan, William Eames, Charles William Sharples, Robert William Anderson and John Ottley. The following appointments are announced:—Staff-Surgeons: R. W. Anderson to the *Lion* (dated Aug. 31st, 1893); C. L. Vasey to the *Anson* (dated Sept. 12th, 1893); and Charles W. Sharples to the R.N. Rendezvous, Spring-gardens, temporarily (dated Sept. 5th, 1893). Surgeons: Robert N. Nicholson to Haslar Hospital; P. W. Bassett-Smith to the *President*, additional; H. P. Shuttleworth to the *Empress of India* (dated Sept. 11th, 1893); C. J. Mansfield to the *Anson* and J. A. Moon to the *Britannia* (both dated Sept. 12th, 1893); James M. Rogers *Cockatrice* and George Welch to Portsmouth Dockyard (both dated Sept. 2nd, 1893); Hugh St. D. Griffiths to the *President*, additional (dated Sept. 14th, 1893); Frank Bradshaw, to the *Vernon*, additional (dated Sept. 12th, 1893); and G. T. Collingwood to the *Widgeon* and Ernest D. Minter to the *Pembroke*.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain George R. Gilruth to be Surgeon-Major. Surgeon-Captain George Middlemiss, 1st Volunteer Battalion Durham Light Infantry, to be Surgeon-Captain; Surgeon-Lieutenant William Burns Macdonald, M.B., 1st Haddington Artillery Volunteers, to be Surgeon-Captain.

VOLUNTEER CORPS.

Rifle: 2nd Volunteer Battalion, the Queen's Own (Royal West Kent Regiment): Surgeon-Lieutenant T. N. Wright resigns his commission.—2nd Volunteer Battalion, the Royal Scots Fusiliers: John Highet, M.D., to be Surgeon-Lieutenant (dated Sept. 2nd, 1893).—4th Volunteer Battalion, the King's (Liverpool Regiment): Surgeon-Captain W. S. Limrick to be Surgeon-Major (dated Sept. 2nd, 1893).

DEATH IN THE SERVICES.

Surgeon-Major John Charles Collins, Retired List, Bengal Medical Service, on Aug. 20th, at Steanbridge House, Stroud, aged seventy-one.

Correspondence.

"Audi alteram partem."

"THE REPORT OF THE COMMITTEE ON REGISTRATION OF MIDWIVES."

To the Editors of THE LANCET.

SIRS,—Permit me to point out that the writer of the annotation on the above subject, which appeared in THE LANCET of Aug. 26th, no doubt unintentionally, misrepresents my views as to the education of midwives. My evidence before the Committee may have been of no value, but how anyone who has read it and the letters from me which have appeared in the medical journals could consider me to be the defender "of ignorant midwives" amazes me. During the whole of my professional life I have been an advocate for the better training of midwives, and I do not think any master of the Rotunda Hospital ever more earnestly endeavoured to raise the standard of the education of these women than I did, and I think with some success. And in my evidence before the Committee and in the letters I have written on the subject I desired to impress on the public the necessity of increasing the facilities for the training of midwives throughout the whole empire. To be brief, I am of opinion: 1. That it is most desirable that a considerable number of women should be annually trained as midwives. 2. That to grant certificates to very imperfectly trained women would be misleading to the public and would be a public wrong. 3. That it would be impossible to educate efficiently any woman as a midwife except at some kind of maternity hospital and placed under the supervision of a practitioner who could and would devote sufficient time to the duty. When I spoke of "the farce of

education under a local practitioner" I had in view the possible case of the licensing body accepting certificates from "any registered practitioner," which indeed was actually proposed to be done by the Midwives' Registration Bill, and which, if it be done, will without doubt be too often a mere "farce." 4. That the examination of these women should be conducted by examiners appointed by the various universities and licensing bodies, to whom certain districts should be assigned for that purpose. 5. That the registration of all women now in practice, as proposed by the authors of the Bill, would be to inflict a grievous wrong on the poor.

I regret to say that I am compelled to reiterate that, as far as my personal experience goes, I have seen more harm done by practitioners who, though both licensed and "registered," were ignorant of midwifery, than by ignorant and illiterate women. Let me give a few instances that occur to my memory at the instant. 1. I remember three cases in which the cervix was extensively lacerated, and in one of these the vagina as well, in the attempts which were made by practitioners to force the hand into the uterus where the placenta was retained in cases of abortion. Two of these cases terminated fatally. 2. Twice I have known the blade of the forceps to be thrust through the lower segment of the uterus when it was supposed to be dilated but was not, with lamentable results. 3. I know of a case in which the intestines, which escaped through a ruptured uterus, were drawn down, they being mistaken for the membranes. These cases were all under the care of practitioners. I have never known such serious cases of malpractice to occur amongst women calling themselves midwives. Of course, I can only speak of my own experience. My evidence was neither "careless" nor "extravagant," but strictly true; and if these facts would lead the licensing bodies to require a more extended knowledge of midwifery from students than they do now great good would result. I was led quite unpremeditatively to speak before the Committee of the ignorance of midwifery which was displayed by not a few registered practitioners to show that a mere smattering of knowledge such as the proposed Midwives Registration Bill seemed only to require was dangerous. I fear it is useless to hope for greater attention to this important branch of medical education being required of students by the majority of the licensing bodies and Universities; they are content to send out into practice gentlemen who can produce a certificate of having seen half-a-dozen or so cases of labour. This being so what are we to suppose will be deemed sufficient experience for women who are to be registered as midwives? Indeed, one gentleman who is largely engaged in teaching (not midwifery, however) said to me not long since that he considered attendance on one case of labour was all that should be required from any student. I suppose that will be deemed sufficient, too, for midwives? but then they will be "registered," and what more can the advocates of the education of midwives require? Registration, not education, seems to be the great end in view. I only wish to reverse that. I advocate "education," not "registration."

I am, Sirs, yours truly,

Dublin, Aug. 28th, 1893. LOMBE ATTHILL, M.D. Dub.

To the Editors of THE LANCET.

SIRS,—In the annotation on the above subject, which appeared in THE LANCET of Aug. 26th, you refer to those "posing" in the matter as "representatives of the profession." Let me state, once for all, that I do not wish to "pose" as the representative of any persons. My duty is to hinder the formation of any order of midwifery practitioners other than that existing under the authority of the Medical Acts, 1886. The writer of this annotation states that he "protests seriously" against "accusations" made by me. You refer to the answer of mine (Question 372), where I say that many of the certificates of attendance of lying-in cases granted to students are forgeries—just as are their certificates in *practical* pharmacy. I adhere to this statement. I have conducted confinements where as many as from eight to sixteen students *were present*, but where they did not conduct the confinement. Perhaps two of these made an examination; yet all these students went back to the hospital and entered their names as having attended the confinement, and upon this bare statement they have been granted a qualifying certificate. Is this honest? Is it honest to the public and to pregnant women to turn out students "trained" in so loose a manner? You call upon me to substantiate my statement. If you will refer to Questions 686 and 689, you will see that I do not shirk inquiry. Next you refer to Question 425, where I stated that in a hospital I was able to certify that "not one lying-in woman had died in the maternity wards" and that this was done by removing women from the puerperal into the medical wards. I adhere to this statement. You assert that this statement has been "indignantly and successfully met by the physician chiefly responsible." I deny this. To prove the accuracy of my statement, let me refer you to page 143 of the Blue-book No. 289, "Midwives' Registration," where you will find the reply of this physician, who attempted to answer my statement (letter No. 5). It is as follows: "It is quite true that any lying-in case that becomes feverish is removed from the lying-in wards either to the medical or, for many years, to a special surgical ward not under the charge of the lying-in nurses." Does not this admission prove the accuracy of my statement? You add: "Dr. Rentoul should surely withdraw the charge which seemed to shock the Committee?" Do you still adhere to this demand? Let me mention a point in connexion with your unjust charge against me. When my statement made before the Committee was reported in the Liverpool papers the letter No. 5 from the physician you refer to was also inserted in the local papers; in it the public were invited by this physician to treat me as a well-known notorious liar. In his letter the following words occur: "The misstatements of Dr. Rentoul are so notorious amongst the medical profession in Liverpool that they only evoke a smile," and "the foundation for the insinuation must lie in Dr. Rentoul's exuberant and rather mischievously disposed imagination." This letter appeared in three local papers which have a wide circulation. The only plan left to me to vindicate the truth of my statement and dispose of this vile charge was to insert a letter in these papers on May 13th, 1892, in which I offered a reward of £5 "if any of my evidence, as given before the Select Committee, is untruthful." Has this challenge been taken up? It has not. Do you still demand that I "should surely withdraw the charge" made by me? You have conspired to attack my character for truthfulness and to show me in a most damaging light to my fellow practitioners, and I therefore ask you to apologise for your remarks.

Now this letter (No. 5) from the physician regarding my evidence was forwarded to me on June 2nd, 1892, by the clerk of the Select Committee, with a note in which he states that the Committee "will be glad, however, to receive any communication which you may desire to offer respecting Dr. Alexander's letter according to my letter of the 30th inst. to you" (the word "however," I may say, refers to the refusal of the Committee to recall me, at my request, to further substantiate my evidence). I wish to tell you that I replied in full to this letter (No. 5) of the physician. More important still, Why was not my reply inserted in the Blue-book, especially when the physician's letter was inserted? I ask again, Why? I have asked the clerk, and he states, under date June 23rd, 1892, that my reply to the physician's letter "was not received until after the Committee had reported to the House." The last day upon which that Select Committee sat was June 17th, 1892 (see Report), and the clerk in a letter to me, dated June 10th, 1892, acknowledges the receipt of my reply to the physician's letter. How, therefore, was my reply too late? It was manifestly unjust to publish letter No. 5 without also publishing my reply to it. Let this question be answered. And if it was too late then, will not the Committee insert it in the Blue-book now being published? I have a copy of this reply, and if you will insert it in your journal you will greatly oblige me. I wish particularly to bring out one point contained in this reply. In my evidence I was trying to prove that the statements made regarding the death-rate in lying-in women, especially in women attended in connexion with lying-in hospitals, was most unreliable (see Question 424). I referred to the instruction of the Registrar-General to medical practitioners when signing certificates of the cause of death, which is printed in the book of forms supplied free to every practitioner. It is as follows: "Whenever childbirth has occurred within one month before death the fact should invariably be certified, even though it may be believed that the childbirth has no connexion with the cause of death." Now, in the year 1891, in the hospital to which I referred, 234 women were confined. Of this number at least three died. Their names were: A. M——, died Feb. 25th, 1891; M. M——, died Aug. 14th, 1891; and S. D——, died Jan. 25th, 1892. These names I obtained from the clerk of the workhouse. I then applied to the Superintendent-Registrar of Deaths for official copies of these deaths, paying

3s. 6d. for each copy. These three women died respectively on the fifteenth day, twenty-fifth day and twenty-ninth day after confinement, and therefore, according to the instruction of the Registrar-General, the fact that they died within a month after confinement should have been certified. But were they so certified? No. A reference to the official death certificates will show that S. D—— is certified as having died from "cerebral abscess" and M. M—— from "phthisis." In neither of these cases is the fact of confinement noted. A long search had to be made for the record of the death of A. M——, and eventually she was found to be registered under an entirely different name—viz., A. P——. Her death is certified, "Miscarriage, fifteen days; peritonitis, seven days." Now here, in one lying-in hospital alone, in no less than two out of three cases, the Registrar-General is not notified. That is, in about 66 per cent. of the deaths which occurred. Therefore, as only copies of these death certificates are sent to the Registrar-General, his statistics of deaths amongst lying-in women are absolutely unreliable, owing to the inaccuracies in these certificates. In fact, the Registrar-General in his fiftieth annual report, p. 34, recognises this want of accuracy. Newsholme, in his "Vital Statistics," p. 207, makes a similar statement. I therefore think that I have confirmed the accuracy of my statement as to the unreliable nature of the statistics relating to the hospital referred to.

There is another strange remark made in this letter (No. 5) by the physician. He states that the lying-in register contains the subsequent history of all cases which pass through the lying-in wards, and if any of them should die "long after confinement" this fact is stated in the summary. To show how impossible it would be to accomplish this, and to show that it is extremely difficult to trace these hospital patients even for a month, I obtained the following statistics from the parish clerk:—

No. of women confined in 1891.	No. of women discharged from lying-in wards.		No. of women transferred from lying-in to hospital wards.
234 (Of these 140 were single women).	Within the 7th day	22	20
	" " 14th "	95	3
	" " 21st "	77	6
	Over 21st "	18	2
	Total	212	Total .. 31

Therefore, of 212 women, 31 were transferred to the hospital wards. This is a heavy sick-rate. I cannot say how many went back into the city and so were lost sight of, or whether they went into other hospitals and there died before the thirty-one days after confinement.

Now, Sirs, as you have in your widely read journal in the most public manner possible protested against my "accusation" and stated that I "should surely withdraw the charges" I made, and as you state that the physician has "successfully and indignantly" proved my statements to be untrue, I call upon you to withdraw your remarks made regarding my statements. I value the truth, as it should be our highest honour to show fidelity and loyalty to it. I have no wish to descend to personal bickerings. I only ask for fair play, and that you will give as great prominence to my reply as to your accusation regarding my want of truthfulness. It is an unpleasant fact that in the present day, when the cause which an opponent advocates cannot be met by fair argument, wild efforts are made to undermine his character for truthfulness. As to Dr. Atthill's statement, all practical men must concur fully with it.

I am, Sirs, yours faithfully,

Liverpool, Aug. 27th, 1893. ROBERT REID RENTOUL.

To the Editors of THE LANCET.

SIRS,—In the Committee's report which was published in the columns of THE LANCET on the proposed legislation for midwives, such report concludes in the following terms: "Your Committee desire to refer to the apprehension expressed by certain witnesses belonging to the medical profession, lest their interests might be injuriously affected by an improvement in the status of midwives," and the Committee further state that "they are of opinion that the medical profession will not only be relieved of much irksome and ill-paid work," but they also point out in effect that medical men will derive advantage through being more frequently called to the aid of midwives by virtue of the improved knowledge of the latter. Now, Sirs, speaking personally, I should say that the "interest" of the medical profession is a question which should hold quite a subordinate position compared to a question of paramount importance, and that is, Would the proposed legislation decrease or increase the mortality amongst lying-in women? If the answer is in the affirmative I have no hesitation in saying, and most certainly too, that it should pass. On the other hand, however, it is quite conceivable that legislation might tend to increase the mortality and at the same time seriously affect the "interest" of the profession, and in this latter case such interest would be a matter of some moment considering the competition of the age. The idea of the Committee relieving medical men of "irksome work" is a notion which is totally repudiated by almost universal and everyday experience, because there are numbers of medical men both in town and country who are not only ready, but who actually undertake and conduct midwifery at the same rate of fees as uncertificated midwives. No doubt the ultimate results of this kind of legislation, as, indeed, in any other kind, are a matter of uncertainty. Hence the wide difference of opinion on the subject; but it would seem to me that one is able to arrive at some approximate estimate, provided only one bases his calculations on facts instead of on mere opinion, and the facts are undoubtedly these—namely, that legislation must either decrease or increase the number of midwives, or it must retain them at their present ratio—i.e., exchange the registered for unregistered number for number. With regard to the first—i.e., decrease—a fear was very properly and honestly expressed by the proposers of this legislation that the number of midwives might become too few, and no doubt this consideration is one that ought not to be lightly brushed aside, because it is evident that if an Act of Parliament were to have a very drastic effect in exterminating the "Gamps" and the void was not sufficiently filled by the registered, such country and other places which are sparingly provided with medical men must seriously suffer; hence we see the risks of a decrease. Secondly, with regard to a problematic increase and to express my private opinion the Act is more likely to operate in this direction than any other. It is almost absurd to mention anything so self-evident as the fact that the expenditure of an unlimited number of "natural" cases in the hands of a class whose experience would be wasted, as they would have no authority to act in emergencies, must necessarily be such a waste of obstetric knowledge in general that its equivalent can only be expressed by saying that general practitioners must tend to degenerate in this knowledge. With regard to the question of the "improved status" of midwives, it seems to me that the Act could have no effect either in increasing or decreasing midwives except by such improved status; otherwise, how is it certificated midwives have not exterminated the "Gamps" already? It is well-known by all classes of the public that certificated midwives are to be obtained; nevertheless, in the very teeth of the latter, the "Gamps" still carry on their craft as heretofore. Lastly, with regard to the only other alternative—and this is indeed the only conceivable advantage to my mind that could be derived from the Act,—namely, the maintenance of midwives at or about their present number, the only question that remains is, Is it worth while to hazard an Act of Parliament which has been shown to be so perilous, either through increase or decrease, on the mere offshot of retaining midwives at their present number?

I am, Sirs, yours truly,

Queen's-road, Aug. 25th, 1893. CLEMENT H. SERS.

GOVERNMENT AND THE INDIAN OPIUM TRADE.

To the Editors of THE LANCET.

SIRS,—May I be permitted to address to you a few words in reference to the memorial condemnatory of the growth and sale of opium as now permitted by the Indian Government, which recently received the signatures of some 5000 British medical practitioners. Living in a country which spends £7,000,000 on milk and £141,000,000 on intoxicating drinks annually—a pound on drink for every shilling on milk—these gentlemen have many opportunities of noticing the terrible evils that follow the habitual imbibition of alcohol. The bodily diseases it causes—the cirrhosed livers, the diseased kidneys, the dropsy, the fatty hearts, the arterial

degenerations, the paralysis and insanity—and the misery, brutality and crime of alcohol are always with them, and yet there are doubtless many amongst them who applauded a recently deceased prelate, when he said that he would rather see England free than sober. They would rather see all the suffering, crime, disease and misery which alcohol causes in England than have the liberty of the people to abuse alcohol curtailed by an Act of Parliament. I take it that opium is habitually consumed in India for very much the same purposes that have led to the habitual use of alcohol in England as a dietetic article in moderate quantity. It produces the same feeling of completeness, if not repletion, which is so dear to the soul of the rich and leads to a freer flow of ideas and sprightlier conversation; and it dulls the sensibilities of the poor to the miseries of hunger, cold, hardship and overwork. When, therefore, these 5000 British medical practitioners signed a petition that Her Majesty's subjects in India should be deprived of their liberty to indulge in the use of opium, whilst they jealously guard the liberty to indulge in alcohol for their own people, it could only have been from the strong conviction that the opium habit was incomparably more vicious, degrading and mischievous to the mind and body than the alcoholic habit. On no other ground is their attempt to interfere with the liberties of the people of India justifiable. I do not believe that they were influenced by such untenable academic trivialities as are founded on the relative doses of the two drugs, or the inclusion of one or both in that category. It can only have been—at least it ought only to have been—on a belief that the overwhelming balance of evil weighed heavily to the side of opium; but it is not easy to find the grounds for such a belief. Take first the tissue changes caused by the habitual use of alcohol in excess, and Parkes shows that anything over two ounces daily is excess. They are only too obvious and cannot escape the daily notice of the most unobservant medical practitioners in England; but the injury done by opium to the constitution is so obscure that it has never been precisely ascertained. But though obscure it may be profound, and the memorialists, familiar with the sight of the miserable, depraved specimens of alcoholic humanity hanging round public-houses and street corners in England, probably pictured to themselves similar but in some way more terribly debased objects, the victims of the opium habit lounging round the opium shops in India. That the abuse of opium does produce disastrous results no one denies, but I doubt whether the depravity equals that of the gin drinker of England and it certainly cannot exceed it. However that may be, the "opium sot" is not *en évidence*. During a service of twenty years, a great part of which was spent in Eastern Bengal, one of the districts of India where the dietetic consumption of opium is largest, where I lived in a town of 80 000 inhabitants and where I was in charge of a hospital with 150 beds, of a lunatic asylum with over 200 inmates, and in medical charge of a gaol with 1000 prisoners, I can with difficulty recollect more than one man whose bodily or mental health was obviously wrecked by opium. Which of the 5000 memorialists could say that he could with difficulty recollect more than one man whose bodily or mental health had been obviously wrecked by alcohol? Did they imagine that our asylums are filled with the victims of the opium habit as alcohol fills the asylums of England? It is not opium that fills the asylums of India, but ganja—ganja which, like alcohol, maddens and dements its votaries. Neither does opium lead to crime, certainly not to violence, murder and brutal assault. This is, again, the *rôle* of ganja and alcohol. Opium tends rather to indolence, neglect of business and theft. Yet, as a matter of fact, the opium-eater, as we know him in India, is not vicious. He is the rich landowner who subscribes liberally to the Lady Dufferin fund or makes munificent gifts to his native town; he is the shrewd banker or merchant doing a large and intricate business; he is the police inspector or head master of a Mahomedan high school; he is the clean, respectful, stately servant who waits on me at table; or the man whom I am proud to have retained in my service for fifteen years, who is my right hand in all domestic difficulties, who keeps my ready money and my accounts, who has nursed my children and calls them by their names; he is the small tenant farmer cultivating a patch of fevered land, ground between an exacting landlord and the money-lender; or he is the proud rajput whose sons form the finest cavalry regiments in the world, or the stern Sikh soldier, whose loyalty saved India for us in our time of trouble, and who will remain staunch so long as we treat him and his ways with the reasonableness and sympathy he has so splendidly earned.

Let England think many times before, by ignorant and prejudiced interference with their habits, she alienates such men from her side. If such is the aspect which the opium question presents to us who spend our lives amongst the sober, quiet and orderly people of India, in daily contact and sympathy with them in their illnesses, bereavements, ever-grinding troubles and occasional joys, how is it that it is so differently regarded by the 5000 practitioners in England who signed the memorial referred to? It is only to be accounted for in three ways. To a man born and living in England the use of alcohol is the most natural thing in the world. It is glorified in many a song; it is the outward and visible sign of social amiability and good-fellowship; it is essential to the celebration of every event in his life; it adds roundness and completeness to his being. He is aware of the evils of drink, the misery of thousands of homes, the brutality and crime, the hunger and nakedness of trembling wives and children which its abuse entails; but these seem to him the natural and inevitable outcome of human weakness, and he resents any attempt at artificial checks to them. People cannot be made moral or happy by Act of Parliament—better England free than sober. But the opium habit, no matter what you say of its comparative harmlessness, is foreign to his ways of life, and is strange, unnatural and on no account to be tolerated. In the second place, he has no personal experience of the dietetic use of opium. He knows it only as an invaluable drug in the treatment of disease and in those sad cases he meets with in his practice of opium or morphia eating in England. He sees the utter moral depravity which it causes there, and, coupling that with what he has read, he pictures all opium-eaters in India or elsewhere as hopelessly sunk and degraded to the same degree. My purpose will be to some extent served if I have succeeded in modifying that misconception. In the third place—but this consideration I adduce with reluctance—I fear that his opinions are to a great degree influenced by the highly coloured pictures, the mis-statements, the misrepresentations of the anti-opium agitation—misrepresentations so strange and gross that when they are not evidently due to ignorance of India and its people, it is difficult to believe them unintentional. I cannot dilate on this subject, but let everyone who is asked to sign a memorial to take away any of the liberties of their fellow-subjects in India insist on seeing the recent minute of the Government of India on the consumption of opium in India in full and not in one-sided quotations.

There are many aspects of this question which I have not touched. I have written chiefly as a medical man with special opportunities of arriving at a just appreciation of the evils of the dietetic use of opium. I have hinted at the possible disaffection which the attempted suppression of this use of opium might cause in the recruiting grounds of our best troops; but I have not spoken of the evils of uncontrollable smuggling, the impossible army of preventive excisemen, the filling of the gaols with new crimes, or the hopeless attempt at race legislation contemplated in Burmah &c. These are not medical aspects of the controversy and they have been dealt with by others, but I have still a few words to say on the hardship involved in the suppression of opium not only to the thousands who take their few grains of opium after their evening meal, just as an English gentleman takes his glass of wine after dinner, and which probably do them less harm, but also to the many thousands of people, especially those living in damp, malarial districts, imperfectly clad, indifferently fed and housed and keenly susceptible to attacks of fever from chills. To them opium is probably to some extent a substitute for food. Is not the same thing said of alcohol? And may it not also dull the susceptibility of their bodies, enfeebled by the malarial cachexy, to sudden changes of temperature and so ward off attacks of fever, though it may not be strictly a prophylactic in the sense that quinine is. Is it not more than probable that opium has a real effect of this kind when we reflect that not only do the people of Eastern Bengal and Assam use it for this purpose, but it also forms a regular portion of the *armamentarium* of parties entering the Sub-Himalayan Terai, and that the people living in the fens of England also use opium with the same object? It may be that quinine may be better, but quinine was for many years utterly beyond the purses of the people of these regions if it is not so still; and they have faith in opium, and it comforts them and does them no appreciable harm.

But there is yet another aspect of this proposed policy of

suddenly suppressing the dietetic use of opium in India amongst a people long habituated to it. What will they substitute for it? So long as mankind are in such imperfect harmony with their environment—so long as there are pangs of hunger, misery, disease and want—men and women, whether wretched or pampered, will have recourse to some intoxicating drug to obtain temporary oblivion, temporary dulling of the sensibilities to misery or temporary elevation to a sense of well-being unwarranted by the actual circumstances. Human nature is very much the same in India as it is in England and it is vain to hope that they will not do so. It is happening now under our very eyes. Let those who doubt this read the report of the Commissioner of Excise for Bengal for 1890-91. He there shows that in some districts the high price to which opium has been raised with the object of limiting its consumption is driving the people to ganja and in other districts to spirits. It was inevitable and the inevitable invariably happens. It may not be generally known that some three-fourths of the people of India are debarred from the use of alcohol either by religion or caste, and there is little doubt that the dietetic use of opium as a substitute for spirits or wine received a great impetus by the Islamic prohibition of wine at the time of the Mussulman conquest of India. It is the great merit of the Mahomedan religion that it keeps two hundred millions of the human race sober. Is the English occupation of India destined to be signalised by the prohibition of opium and the relapse of the people into habits of drunkenness? What is it that is debauching the poor, overworked and underpaid office clerk and the Calcutta *baboo* who, under the influence of Western ideas, has broken through the trammels of caste? Is it opium? No; it is brandy and the cheap liquors imported from England and sold without let or hindrance everywhere in the bazaars. Is this the beginning of a reformation of morals? or is it to be done by an increased consumption of ganja?—ganja, which grows wild in many districts; ganja, which infuriates, which excites to acute mania and the commission of violent crimes; which is the cause of those wholesale murders known as "running amok," which takes the place of alcohol in Indian asylum records, which accounts alone for one-third of the admissions[1] and fills them with dangerous and untrustworthy inmates.

If it is to be opium, alcohol or ganja—let me say it with all the solemnity which words can give it and which my sense of the gravity and knowledge of the issues in question demand—if it is to be opium, alcohol or ganja a thousand times let it be opium. I am, Sirs, yours truly,

A. CROMBIE, M.D.,
Surgeon-Lieutenant-Colonel, Surgeon-Superintendent,
Calcutta. European General Hospital, Calcutta.

"INFECTIOUS DISEASES IN BRADFORD."

To the Editors of THE LANCET.

SIRS,—Your annotation under the above title which appeared in THE LANCET of Aug. 26th will convey to the public an erroneous impression as to the sanitary condition of the town, and for this reason I must ask the favour of a short paragraph by way of explanation.

During last May, when it was seen that the section of the Fever Hospital which was specially constructed for the isolation of small-pox would not afford sufficient accommodation for the increasing number of cases, it was decided to devote the whole of the hospital (containing about 200 beds) exclusively to the isolation and treatment of this disease and to build a new temporary hospital on the other side of the town for the scarlet fever cases, which at that time were few in number. Unfortunately at the commencement of July a large increase in the number of scarlet fever cases occurred. This epidemic was caused by the consumption of infected milk—a circumstance which no sanitary authority could foresee, much less provide for. The new hospital was, in consequence, soon filled with scarlet fever patients, and others had to be treated at home; but the incidence of this milk epidemic was not upon the poor population, as one would gather from your annotation, but upon the well-to-do and the rich, who possessed means of isolation at their own homes and who had no desire to avail themselves of the use of the hospital; in fact, most of the patients admitted were servants from these infected houses. There are at the present time in Bradford about 270 beds for the isolation and treatment of infectious diseases, a proportion of beds to population that is not surpassed by any town in the country. I therefore cannot accept your statement that "the provision of hospital accommodation has been greatly neglected." With regard to your remark that "small-pox has been more severe in Bradford than in any other town in the kingdom," I have to refer you to the weekly return of the notification of infectious diseases issued by the Local Government Board. A glance at this will at once show you that the statement is untrue and that many towns have had small-pox more severely than Bradford. The question as to whether the hospital has been the means of disseminating small-pox is a matter of opinion. I can merely say that a few years ago the site of the hospital was quite satisfactory, the buildings being situated on a hill, with very few habitations in the immediate locality; but during the last three years the builder has been hard at work and new streets have crept up very close to the hospital on the west side. However, on the north and east sides the corporation has purchased a large tract of land and has effectually stopped the further building of houses.

In the matter of water-supply Bradford has this year, in common with many large towns, passed through a period of anxiety, and the Waterworks Committee felt it their duty to issue a notice asking people to exercise economy and not to wilfully waste water. I enclose a copy of this notice, and beg you to observe that no such terror as "threatening with penalties" is mentioned. Trusting that you will insert this letter, I am, Sirs, yours truly,

W. ARNOLD EVANS, M.D. Lond.,
Bradford, Aug. 29th, 1893. Medical Officer of Health.

[1] The figures for 1890 were—total admissions to the asylums of Lower Bengal, 221; of these 66 were ganja-smokers, 2 opium-eaters and 7 spirit-drinkers.

TUBERCLES IN THE CORPUS STRIATUM A CAUSE OF PYREXIA.

To the Editors of THE LANCET.

SIRS,—Lesions of the corpus striatum may possibly cause pyrexia, but the case recorded by Dr. Stevens in THE LANCET of Aug. 26th cannot be said to furnish very strong evidence in support of that possibility. Had there been persistent high temperature the presence of tubercles in the corpus striatum would have been interesting, and, perhaps with some reason, might have been considered to have been connected with the pyrexia. Marked rise of temperature is, however, so common at the termination of cases of tuberculous meningitis that it would be unreasonable to suppose that tubercles are present in the corpora striata in every instance; but that they are unable to materially affect the temperature until death approaches. The rise of temperature is probably merely a sign of the coming end, the heat, respiratory and cardiac centres failing in succession. In death from cerebral disease one centre may fail before another—e.g., I have seen a case of death from cerebral tumour in which the respiration stopped two minutes before the pulse. Curiously enough, a disease in which the heat regulation centres most frequently fail as death approaches is one of the abdomen and not of the brain. In children who are dying from diarrhœa the temperature almost invariably rises to a considerable height a few hours before the end and may continue to rise after death. In this disease the cerebral centres are probably paralysed by the action of poisons absorbed from the alimentary canal. In a recent letter to THE LANCET[1] I suggested that death in tuberculous meningitis was also brought about by the action of poisons, since in many instances there is, post mortem, no evidence to show that there has been sufficient damage to the brain to cause death.—I am, Sirs, yours truly,

Oakfield-road, Clifton, Sept. 5th, 1893. THEODORE FISHER.

"APYREXIAL INFLUENZA."

To the Editors of THE LANCET.

SIRS,—Your leading article of Aug. 12th, in which you refer to Dr. Wilks' letter to you upon this subject in a previous issue, emboldens me to mention very briefly another case of influenza in which decided nerve symptoms occurred without a previous febrile state. I must first state that in January, 1890, whilst attending several patients attacked by influenza, I suffered for four days from sudden "febricula" and pains in various muscles. This I believed to be influenza,

[1] THE LANCET, July 29th, 1893.

but on this occasion I was not obliged to give up work entirely and suffered from no sequels. In May, 1891, I quite suddenly found myself unable to walk and eat. The second symptom was relieved by living on liquids, but the weakness of my legs caused me to take to my bed and remain there for a fortnight. I took my temperature night and morning for several days at the onset and having then heard of no similar case I was astonished to find always an entire absence of fever. When I began to crawl about my lay friends used to ask me if I had hurt my legs and I was conscious of several ataxic symptoms, though my reading powers were never affected. In July I went overland to London and found myself so knocked up by the railway journey from Venice that I was obliged to place myself in the hands of a medical friend, who ordered me to Margate, where I gradually regained my walking powers. I calculated that it was six months in all before I lost all symptoms. Since then I have seen during two winters many patients suffering from influenza in hospital and private practice without any recurrence of my nerve symptoms.

I am, Sirs, yours truly,

Cairo, August, 1893. F. M. SANDWITH, M.D.

"LITTLE CHILDREN AND HEAT."

To the Editors of THE LANCET.

SIRS,—Your annotation on the above subject, which appeared in THE LANCET of Aug. 26th, must have appealed by its truthfulness to most of your readers. How much misery would be avoided if mothers and nurses could be disabused of their ignorant dread of "catching cold" and could be made to realise that in the hot summer weather children are far more likely to suffer from becoming too hot than from "taking a chill." Where one sees one child that may possibly have taken cold we see dozens who are palpably suffering from the effect of too warm clothing (especially bedclothes), too hot rooms, too much exposure to the sun and who are quickly relieved by the simple measures which one takes, in spite of protests, to cool them again. But there is another source of cruel suffering and dangerous or even fatal illness in very hot weather which you do not mention, and which is, in fact, often overlooked, because it is unsuspected. I mean want of water, due to the ignorant but widespread belief that cold water is injurious to children in hot weather. The following case may serve as an example. At eleven o'clock in the morning of one of the hottest days there has been I found awaiting me in my consulting room a woman and child of the lower middle class. It was a weak, rickety, three year old child with a big head. I had seen it some three weeks previously. It was grovelling on the floor on its knees and face, pressing its forehead against the cool oilcloth. It whined piteously and struggled feebly when any attempt was made to raise it and as soon as it could resumed its position. It was clad in a thick woollen overcoat, fit for the severest winter, and wore a heavy red plush Tam-o'-Shanter cap. The woman said that it had become alarmingly worse during the previous few days. It had been restless and almost convulsed at nights, its eyes rolling and its face and fingers twitching; and it had been sweating profusely and had passed urine, but only in small quantities, almost every ten minutes, crying with pain when it did so. I asked her why she had put on the thick overcoat and heavy cap. She said that it had no other overcoat and she was afraid to bring it out without one, as it was "subject to bronchitis." I asked her if she ever gave it any water to drink, but she indignantly disclaimed the idea; it was given only pure milk and strong beef-tea to strengthen it, being so weakly. I gave it half a glass of water. It seized upon it with a joyous sound and drank it eagerly. When the greater part was gone I took away the water; it screamed for it and drained the last drop. The change was immediate and most marked. It no longer grovelled on the oilcloth; whereas it had been sweating, restless, panting, miserable, hardly conscious of its surroundings, and seemed likely to die. It now sat up cheerfully, began to look around and even to talk. I took off the thick coat and cap and ordered it to be lightly clad, to be kept as cool as possible and to have its hair cut short; also to be given a little water frequently and to have its milk and beef-tea diluted. I saw it three days later. Though the hot weather had persisted the child was bright and well; it had had no more twitchings, no more convulsions, no more restless nights, micturition was no longer painful or too frequent, and there was no excessive sweating.

I mention this case not as being an exceptional or rare one, but simply as being a marked example of a type of which one sees many slighter cases in hot weather, and the real cause of which one may not always suspect—certainly the parents do not. The *rationale* of the condition is so obvious that I merely need allude to it. The blood is overloaded with waste products owing to the concentrated food, the high temperature, the excessive sweating (apparently an effort of nature to get rid of them) and the lack of sufficient water to dilute them and wash them away. Large quantities of almost pure water are being drained away from the blood by the sweat glands, beef-tea and milk only being taken in to supply its place. Hence the restlessness and twitchings, fever and convulsions—the reactions of the nerve centres to the unhealthy blood. On the other hand, the hyperacid and highly concentrated urine causes the frequent and painful micturition which, together with the dreadful thirst which the child cannot alleviate, add terribly to its misery. In the end all these conditions may be sufficient to cause death, the patient being practically poisoned by its own waste products for want of sufficient water to wash them away. I am, Sirs, yours truly,

H. WILLOUGHBY GARDNER, M.D. Lond.

Shrewsbury, Sept. 5th, 1893.

VENESECTION.

To the Editors of THE LANCET.

SIRS,—In describing his interesting case of uræmic coma in THE LANCET of Aug. 26th Mr. Swindells states that after venesection the blood was so thickened that it would not flow. My experience of this little operation may prove of interest and may suggest the possibility that Mr. Swindells may not have made a large enough opening into the vein. Practitioners cannot be expert in an operation which few ever perform; and it is only in my recent cases that I have drawn blood by a single incision, including both the skin and the wall of the vessel. At first I dissected carefully down upon the vein, and even in one case passed the handle of a scalpel beneath it before incising it. I think it was in my first case—that of a young man in convulsions and of whose case a history of scarlet fever was only obtained afterwards, and in whom the venesection was attended with the usual excellent results—that the operation had nearly proved a failure, although I had the assistance of a brother practitioner. Blood would scarcely flow, but on enlarging the opening in an obliquely longitudinal direction to nearly half an inch, we were gratified by seeing for the first time in our lives the vital stream gush forth *pleno rivo*. In another case a child, both emaciated and anæmic, was seized with post-scarlatinal convulsions, and in my absence (I had previously attended the case) my assistant performed venesection, but could only extract an ounce or two of blood. Next day, as the child was twitching and still comatose, I bled her to ten ounces without any difficulty. Care should be taken that the bandage on the upper arm is not too tight, as it may thus compress the arteries as well as veins. Bloodletting in scarlatinal uræmia I have found invariably successful, but one case taught me a painful lesson. Three days afterwards in this case, and when the good effects had fully declared themselves, phlebitis and septicæmia set in with a fatal result. Called to such cases in a great hurry and obliged to operate in a dirty house without the necessary appliances at hand, one is apt to be hasty, but this case showed that it is better to wait till the means are available of doing everything with the strictest antiseptic precautions. I have not found venesection so invariably successful in puerperal eclampsia, one primipara who was bled to sixteen ounces during labour never regaining consciousness and dying a good many hours after complete delivery.

I am, Sirs, yours faithfully,

Partick, Glasgow, Aug. 28th, 1893. ROBERT KIRK, M.D. Edin.

"MEDICAL AID ASSOCIATIONS."

To the Editors of THE LANCET.

SIRS,—Permit a brief reply to "The Chairman's" letter, which refers to me, in THE LANCET of the 26th ult. The statement that my payment was equal to £260 a year is an exaggeration of the actual value of my post amounting to at least 20 per cent. The question is not my remuneration at all, but what deference his association will pay

to the officially expressed opinion of the General Medical Council. I affirm that "The Chairman's" association typically illustrates the fourfold evils which Dr. Glover's committee so accurately ascribes to similar societies: an overworked medical man in a dependent position, undertreated patients, and well-to-do members. When the Council officially drew the attention of my committee and myself to these abuses I conceived that I should be meriting the approbation—as well of yourselves, Sirs, and the Council—of all competent to judge if I could at least remove from my work that worst stigma of inadequate treatment. I therefore requested my committee to consider the resolution of the Council and my difficulties, or to accept my resignation. Under the guidance of "The Chairman" the committee chose to ignore the one, to flout the other and to fall back on the overcrowded state of the profession. I do not think any member of my association will be found to deny that there is more work here than one medical man can do; and when cases of pneumonia heart disease, diabetes &c. are overlooked once or oftener through sheer want of time to make the necessary physical examination the fact is obvious enough. A conveyance and a dispenser are absolutely necessary if the medical officer is to do his work properly. The members, satisfied with their surgeon, would readily have paid an increased subscription to cover the cost of his relief; but broad considerations of policy, honest endeavour and faithful service count for nothing with "The Chairman" and those like him when the integrity of the sacred 4*s.* a year is threatened.

I am, Sirs, yours truly,

Sept. 6th, 1893. THE CHAIRMAN'S SURGEON.

AMERICAN MEDICAL SCHOOLS.

To the Editors of THE LANCET.

SIRS,—In the very interesting article upon "Medical Education in America," which appeared in the "Students' Number" of THE LANCET, there are certain statements which, in whatever degree true of the medical departments of Yale and Harvard, are by no means to be predicated of those institutions of learning *quâ* universities. I particularise the clauses in which your informant alleges that "very little similarity" exists between the position occupied by the American Universities and that of Oxford and Cambridge Universities in imperial Great Britain, and that the former "depend almost entirely for support upon the particular State wherein they are situated," and can be called "national" in no such sense as would be true of the British institutions. As an *alumnus* of Yale, both academical and medical, and familiar from childhood with its progress and scope as a great educational centre, you will readily pardon the pride which prompts my correction of your correspondent. Not having the figures before me I cannot speak statistically of the sources whence comes its annual throng of matriculants; but, judging from my own graduating class, I venture to say that not one-eighth are from the State of Connecticut. Of the class mentioned many were from New York, many from Massachusetts (the home of Harvard), and a large proportion were from the Western and Southern States, whilst even the Sandwich Islands and China had their native representatives. Prior to the great rebellion Yale was pre-eminently the chosen *alma mater* of Southern students, and if they be less numerous (I do not know that they are) at present this must be from other causes than any loss of its traditional nationality. In postulating this quality of its teaching and influence I should not fail to remind the Englishman of the vastness of our country, the extent and distribution of its population, and the fact that many of our individual States might in area environ Great Britain and Ireland. The same is quite as true of Harvard, so that any intelligent American must smile at the assumption that "it is but the University of Massachusetts." In regard to the special department which you discuss, there are several reasons to be assigned for the large proportion of New England students who appear upon its catalogue. I will only allude to the great variety of our climatology and the natural desire of the student to inform himself particularly about the peculiarities of those diseases (and their habitat) which prevail where he expects to practise medicine. And, finally, in noticing the numbers of the several medical classes at Yale who are Bachelors of Arts, one must believe that their four years of previous university training has enabled them to appreciate the literary and scientific atmosphere, the incitements to faithful and patient industry, and the quality of the results obtained from the methods of teaching there in vogue, so that they find abundant reasons for "electing to be born again" of their *alma mater*. Apologising for saying so much in the simple interests of truth,

I am, Sirs, yours truly,

Cavendish Mansions, Sept. 4th, 1893. YALENSIAN.

IN NORTHERN LANDS.

(FROM A HOLIDAY CORRESPONDENT.)

WE found ourselves one evening running down the Tyne on board a Norwegian steamer, bound for Stavanger. She set herself bravely to her task, dipping her nose into the brine, scattering the spray in clouds over the forecastle, and, kicking her heels high in the air, she plunged her way northwards through the darkness. Next morning the sun was shining brightly, the rain clouds were gone, but the north wind had increased in strength and the sea remained rough. All around us were those heaving purple foam-crested waves which Henry Moore paints with such unerring fidelity. The day passed somewhat uncomfortably. It was with difficulty that one could keep one's place on deck, promenading was out of the question, and only some eight or nine out of our large company were able to appear at table. Again the night drew on but more lingeringly, for we were running into those northern seas where in summer night has either literally or virtually no existence. We were due at Stavanger at 1.30 A.M. next morning, and, in spite of wind and wave, we were expected to be only two or three hours late.

We arrived at Stavanger and went ashore in the clear still morning light. One's first impressions of Norway under favourable conditions are singularly pleasing. The magnificent coast-line split and serrated into numberless bays and inlets and flanked by *holms* and *skerries* almost as countless as the wild fowl that inhabit them, the view shore-wards with its multitudinous reaches of bright water piercing far inland and its distant vistas of cloud-topped peak, snowfield and glacier, the forests of glittering birch a sombre pine, the wooden houses and rustic homesteads, the freshness of the air, the simplicity and cordiality of the people—these constitute a scene inherently most interesting, and especially attractive to the seasoned traveller *blasé* with the fascinations of more sophisticated lands. Norway is still fresh and virginal. She has not yet been vulgarised by the relentless march of civilisation. She has thousands of square miles where the shriek of the steam engine is unheard, she has pathless forests where the bear, the wolf and the elk still roam undisturbed, she has grand lakes and imposing waterfalls absolutely unknown to fame, she still invites investigation and exploration.

The tourist landing at Stavanger has two routes open to him. He can either keep to the coast and go northwards by steamer touching at the various fjords *en route*, or he can ascend the Stavanger Fjord and then pierce inland by carriole or carriage. We decided on the latter course and saw no reason to regret our decision. The Stavanger Fjord is not so famous as many of its compeers, but if less richly wooded than the Hardanger and less grand than the Sogne, it has attractions of its own and is no bad introduction to the more impressive scenery that is to follow. At Sand, forty miles from Stavanger, we left the steamer, and here we had our first introduction to the Norwegian "station"—hotel by courtesy—where refreshments, bed and carriole are to be obtained. The day being still early we intended to push on, so we ordered dinner which was promised for one o'clock. The hour arrived and our company gathered at table but the dinner delayed its coming. One gentleman, whose watch was fast, becoming very impatient, remonstrated with the little maid who was leisurely preparing the table and held up his watch by way of rebuke. "Your watch is too soon," said the little maid, smilingly, and went on with her preparations without any pretence of hurry. This illustrates the usual demeanour of servants in Norway. They are attentive and fairly efficient as a rule, never insolent, and always good-humoured; but they preserve an independence of manner unknown in most European countries. Thanks to the highly democratic social system of Norway they are not conscious of any great gulf between themselves and the average tourist. If you offer the hotel porter or the coachman a *trinkgeld* or a cigar, he accepts it and shakes hands with the

donor. The servant who attends you at table will, if you so desire, enter into conversation and talk with you on terms of practical equality. Servants must not be hurried or bullied; civility without servility is their principle, and who will deny that it is a very good one?

The scenery between the head of the Stavanger Fjord and Odde on the Hardanger Fjord, though only recently opened up to tourists, is generally admitted to rank amongst the finest in Norway. Lake Suldal is a typical Norse lake, picturesque in outline, of immense depth and overshadowed by imposing mountains. Bratland's-dal is a grand specimen of that most characteristic feature of Norwegian scenery—the rocky ravine through which rushes the glacier-fed torrent, now dashing its milk-white foam over rock and boulder, now pausing in eddies green as emerald, now expanding into lake and tarn. The view from the summit of the Horrebrækkene, where the valley of Odde opens up to the north and the snowfields and glaciers of the Folgefond become visible, is justly celebrated. It may be compared to that glorious prospect which rewards the traveller who has toiled up the Furca Pass from Hospenthal, when suddenly the Rhone Valley opens up before him with the great Rhone glacier at his feet, on his right the sublime summits of the Bernese Oberland and on his left the still loftier peaks of the Pennine Alps. On the whole, the writer must give the Alpine view the palm, but the Norwegian falls but little below it. As we descend into the valley of Odde we are conscious of the murmur of innumerable torrents, cascades and waterfalls—"the sound of many waters"—so characteristic of Norway. One thinks of that other charming valley so fittingly named Lauterbrunnen ("Nothing but springs"), and recalls the grand line of Wordsworth:—

"The cataracts blow their trumpets from the steep."

In point of waterfalls Norway is easily first of all countries. Every valley re-echoes with them. Down they come through every cleft and ravine, sometimes leaping sheer from the highest visible cliff and appearing to descend out of the very heavens, sometimes dashing from rock to rock in foaming zigzag, now turbulent as Foyers, now feathery as Staubbach, whilst all around becomes vocal with their music. The valley of Odde is particularly rich in famous falls. There is the Lotefos, the Espelandsfos, the Skarsfos, the Hildalfos and many others. The Skjäggedalsfos, which is not far distant, ranks amongst the most imposing of Norwegian waterfalls. There is something soothing to the ear in the sound of falling water, just as the eye is pleased by running streams. It is Nature's music with which she would fain lull her children into forgetfulness of self and of weariness and vexation.

The Hardanger Fjord, on which Odde stands, is one of the best known and most famous of all the Norwegian fjords. It is eighty miles in length and has extensive inlets piercing the country to north and south. Mountains from 3000 to 5000 ft. in height, now well wooded and cultivated, now rocky, precipitous and barren, surround it on all sides. Glaciers and waterfalls abound in its vicinity. Grander than the Christiania or Stavanger Fjords, softer and more pleasing than the Sogne or Geiranger, the Hardanger Fjord occupies an intermediate position and its popularity with the tourist is intelligible and well merited. Seen, now flooded with morning light, again shrouded in twilight shadows; now in calm and sunshine, again in driving clouds and drenching rain, the Hardanger leaves a vivid impress upon the memory and takes its place with such scenes as the lake of Lucerne or Zug or the Wallenstadtsee. The Norwegian fjords are remarkable for their length (the Sogne Fjord is 112 miles long), for their depth (which is in many places from 2000 to 4000 ft.), for their romantic and precipitous banks, and for the immense snowfields and glaciers which overhang them. That they are not formed by marine action is sufficiently proved by the fact that they are in many cases much deeper than the adjacent ocean. Fed as they are by the warm waters of the Gulf Stream they do not freeze in winter, except in their most remote and most continental recesses, and even there only during periods of unusual cold. Their still waters are the highways of the scanty Norwegian commerce. The fjords are often the scene of striking atmospheric phenomena. The morning, perhaps, opens bright and cloudless, the open waters of the fjord are sparkling and purple, its narrower armlets are a brilliant emerald; then, if the weather be unsettled, Nature works one of her startling transformation scenes. Dense masses of cloud sweep down from the neighbouring mountains and snowfields, their trailing skirts hang over vale and fjord, the rain descends in torrents, the sun is obscured, sky, mountain and fjord turn grey; the voice of torrent and waterfall rings out more clearly than before. In a few hours the scene again changes. The rain ceases, the sun begins to dart bright gleams through the dense cloud masses, the clouds gather up their steamy skirts and retreat skywards, and mountain, glacier and fjord are again bathed in sunshine.

Between the Hardanger and the Sogne Fjords lies a district much frequented by tourists. It includes the beautiful valley of Eide, the fertile and well-cultivated oasis of Vossevangen and the far-famed Nærödal, one of the most romantic of the many romantic valleys of Norway. At the head of this famous valley, and commanding grand panoramas, stands Stalheim, with its handsome new hotel. The view from here down the magnificent Nærödal, when sunshine and shadow are chasing each other along its massive rocky walls, and torrent is answering torrent from side to side, away to where the green waters of the Sogne Fjord lave the shore at Gudvangen, is without doubt one of the most striking and unique in the world. Vossevangen and Stalheim have the distinction of possessing large, new and excellent hotels, quite up to modern standards. Such hotels are necessarily the exception in Norway. When we consider that Norway is a poor and mountainous country of vast extent (1100 miles in length and from under 100 to over 400 miles in breadth), that its population hardly exceeds that of Wales, that the people are mainly peasants or fishermen, that the tourist routes are often through remote and desolate regions, it would be manifestly unreasonable to expect palatial hotels. As a Norwegian gentleman remarked, "What can you expect when a peasant undertakes to run a hotel?" Perhaps, taking everything into account, the wonder is rather that they should be so good as they are than that they should present some few deficiencies. To take their good points first, the hotels are generally new, dry and clean; the beds are comfortable and the linen spotless; the attendance is fairly good and the table is liberal—according to Norwegian standards, however unsatisfactory at times to the English palate. As against these points must be set the following disadvantages: the hotels are practically all built of wood and slenderly constructed, hence they are very noisy, even trifling sounds being painfully audible at a considerable distance. As the hotels are often very full, and, there being practically no darkness in Norway during summer, people keep coming and going all night long, this noisiness becomes a very serious nuisance. The wearied tourist, who has perhaps been tramping over fjeld or glacier, or has driven his fifty or sixty miles on the previous day, goes to bed in good time and sinks readily into grateful slumber; but he has frightful dreams. He fancies he is in a terrible railway accident or that the Horse Artillery are holding their autumn manœuvres upon his chest. He wakes up to find that it is only two or three belated travellers who are tramping about with heavy boots in the room overhead. The food is often unsatisfactory, if tried by English standards. Fish, tinned meats, raw ham, and sausage and cheese predominate. Salmon is often served twice daily, sometimes thrice. Beef is uniformly uneatable, mutton is fair, and poultry is usually conspicuous by its absence. Milk and eggs are usually good and the coffee is fair, but the tea is execrable. The butter is fair, and the bread (whether rye or wheaten) is tough and sour. The Norwegian beer is cheap and of fair quality, whilst French and Spanish wines of recognised brands are everywhere to be obtained at moderate prices. If this sketch should ever meet the eyes of a Norwegian hotel-keeper the writer would say to him with all respect, "You do fairly well, all things considered, but you might do better. Recollect that *toujours poisson*, like *toujours perdrix*, is apt to become monotonous. Salmon is the king of fish, but one can have too much of a good thing. Every British soul delights in a piece of good roast beef. Meats tinned are good, but untinned are better. Bread is the staff of life, and nothing makes amends for uniformly sour loaves. Rye bread is pretty to look at and is interesting as a relic of antiquity, but the British stomach prefers wheaten bread. Tea has become cheap in these later days, it is not difficult to make, and it should not smell of hay. Raw ham and raw sausage, besides being objectionable on scientific grounds, are an abomination to all good Britons." The above aphorisms are presented to all whom they may concern.

The Nærödal leads up to the Sogne Fjord, the longest, deepest and in some respects the wildest and grandest of all the great fjords. Precipitous cliffs encircle its still, deep waters, vegetation is scanty, and scantier still are the signs of culti-

vation and human life. As the steamer cleaves these almost unfathomable depths of emerald, the throb of her machinery is the only sound that breaks the profound calm. It adds to the impressiveness of the scene that close to us is the largest glacier in Europe, the Jostedalsbrae, with an area of 350 square miles. The Sogne Fjord pierces the land to the length of 112 miles, and, as showing the contrast of climate between littoral and continental Norway, it is interesting to learn that whilst the rainfall at the mouth of the Sogne Fjord is 80 in., at Laerdal, on one of its innermost arms, it is only 16 in. The village just mentioned—Laerdal or Laerdalsören—is the starting point for two of the most important cross-country routes to Christiania—the Valders route and the Hallingdal route. We selected the former, which leads by Haeg and Maristnen over the Fille Fjeld, and thence by Nystnen, Oilo and Fagernaes to Odnaes, a drive of about 150 miles. At Odnaes the steamer is taken to Lake Randsfjord, whence the rail runs to Christiania. This cross-country journey is unknown to many English tourists, who confine themselves to a coasting trip along the western coast. Such a trip is eminently interesting and enjoyable and gives access probably to the most impressive scenery in Norway, but it is of necessity limited in scope and must leave on the mind an imperfect conception of the country. The Norway of fjords and fisher-folk is not the only Norway. Inferior, on the whole, as is the interior to the coast from the scenic point of view, it is nevertheless most interesting, and the time spent in ascending one of the charming western valleys, crossing the bleak and sombre fjelds, and descending through birch forest and pine grove to the plain of Eastern Norway, will amply repay the traveller. From Laerdal the road ascends for forty miles to the Fille Fjeld by the picturesque ravine through which the foaming Laera rushes from the mountains to the sea. Salmon and trout abound in this stream and anglers are found plying the gentle craft at every bend of the river. One of these astonished us by the information that in a former season he had himself taken 7000 lbs. of salmon in six weeks. As we ascend, the vegetation undergoes the usual changes; the ash, the elm and the alder give place to the pine and the aspen; and to these succeed vast forests of birch and various species of willow, higher still being the lichens. The wild monk's-hood is one of the most persistent of the flowers, and everywhere on the higher levels the eriophoron waves its cottony hairs. The scenery changes rapidly from the picturesqueness of the Norse valleys to the sombre desolation of the Norse fjelds. These are less a distinct mountain range than a lofty plateau, with occasional considerable elevations. The highest point on our route was 3294 ft.; the highest peak in our immediate neighbourhood was the Suletind (5805 ft.); but not far away on the north were the Jotunheim Mountains, with the highest summits in Norway, the Glittertind (8385 ft.) and the Galdhöpig (8400 ft.). The tourist through Norway is not, as in the Alps, perpetually surprised and enthralled by a succession of snowy peaks and icy domes, piercing the clouds and surpassing his most vivid flights of imagination. The Alps are, in this respect, unique in Europe, though followed at a respectable distance by the Pyrenees. Norway has no Mont Blanc, no Matterhorn, no Jungfrau, but snowfields and glaciers she has in abundance. Of her magnificent fjords and romantic valleys enough has been said, but in mountain scenery proper she has nothing really comparable to the Alps. Comparisons of countries, as of individuals, are, however, rarely fair or instructive. Norway is not another Switzerland; she is Norway—that is enough.

When the summit of the fjelds has been passed and the descent of the eastern slope begun the scenery soon changes. The zone of lichens and willows and birch trees is left behind. The farms become more numerous, and the fields are larger and better cultivated. Grand pine forests, once the haunt of the wolf and the bear, but now given over to the hare and the squirrel, are traversed. The country opens out eastwards and becomes richer and more fertile. The scenery loses its sombre tone and becomes softer and more pleasing. We realise that we have passed from the Norway of mountaineers and fisher-folk to the Norway of the agriculturist and the town-dweller. The scenery, though changed in character, retains its picturesqueness. The lakes are still numerous and still grand. The hum of the torrent is never silent. At Odnaes we dismiss our carriage. On the next day we have a sail of forty miles on Lake Randsfjord, then a few hours' journey by rail and we are in the bustling city of Christiania. The Norwegian capital has not much to attract the tourist, except its pretty fjord and charming environs. Its situation is indeed singularly picturesque, but the town itself, the population of which has increased in the last half-century from 30,000 to 150,000, is very modern in style and presents few characteristically Norwegian features. The Palace and the Parliament House are very plain buildings—a hint of the intensely democratic character of the people. There is an Art Gallery, with a few tolerable pictures by Tidemand, Frich, Gude and other Norwegian artists. Two Viking ships which are preserved at the University are amongst the most interesting relics of antiquity which the city affords, and they attract the attention of all visitors.

Enough has been said about Norwegian scenery. The most important products of the country are fish and timber. There is a certain amount of silver and copper in the country and some traces of gold, but no true coal. Rye and barley are the most general cereal crops. The pine, the fir, the ash, the elm, the alder, the birch and the willow grow abundantly. Forests of oak and beech are found only in certain exceptional districts. The bear, the lynx and the wolf are still to be found, but are becoming rarer. Other animals which may be seen are the elk, the glutton, the reindeer, the lemming and the Polar fox. The coasts, rivers and torrents swarm with fish. Salmon, red charr, grayling, perch, pike, bream, eel, herring and cod are amongst the chief species. Black cock, hazel grouse, ptarmigan, lapwing, plover, snipe, teal and partridge are found in the woods and on the moors and mountains.

The climate of Norway presents many variations. Finmark, in the extreme north, has an Arctic climate, and the mean annual temperature is below 32° F. Speaking generally, the coast, being within the area of influence of the Gulf Stream, has a mild and humid climate, not unlike that of the British Islands. The fjords, as has been already stated, are never completely frozen over, and Troudhjem, though in the latitude of Siberia and Greenland, is never ice-bound. On the fjelds the climate necessarily varies much according to elevation, but it is seldom truly Alpine; whilst on the eastern plain it becomes continental in character. Along the western coast the shade temperature in summer rarely reaches 80° F., but much higher readings of the thermometer are recorded at some of the inland stations. Christiania has a mean temperature of 61·9° F. in July. As invalids do not go to Norway the effect of the climate upon definite states of disease may be ignored, but the question arises regarding its influence upon that large body of tourists who are jaded by overwork, physical or mental, and upon those who are in normal health. Much will depend upon the standard of comparison adopted. Those who are accustomed to the vivid stimulation of the Alps, who usually take their annual holiday in the Engadine, or at Zermatt, or Chamounix, will certainly complain that Norway is not bracing enough. Indeed, the western coast can hardly be considered to be bracing at all. The air is mild and humid, with a very small diurnal range of temperature, and its general effect is sedative. It may be compared to the air of Ilfracombe, or Llandudno, or Rothesay. But at the inner margins of the fjords, and still more on the hills that overhang them, may be found numerous resorts with a truly bracing climate. Within easy reach of the Hardanger, Sogue and Nord Fjords, at elevations varying from 1000 ft. to 2000 ft., there are sanatoria amongst the birch and pine forests which offer meteorological conditions most favourable for recuperating mental and physical energy. The air is dry and light, there is abundance of sunshine without excessive heat, and the general effect of the climate is decidedly tonic. Such sanatoria will be found to suit many people who are nervous and sleepless at some of the higher Alpine resorts. Norway cannot be recommended to the *bonâ-fide* invalid. The turbulent North Sea is one objection, the hotel accommodation and diet constitute another, and the difficulty in many places of obtaining medical aid is a third; but for the average tourist, who needs change, variety, pure air and mental and physical relaxation, there are few tours to compare with Norway. It is noteworthy that those who have travelled in Norway almost always speak of the country with unconcealed affection. The marvellous charm of the scenery, the fine summer climate, the simplicity of life and manners everywhere apparent, the feeling that one is virtually amongst one's own kith and kin, and the fact that the people are too simple to cheat and are too independent to ask for alms or gratuities—such may be some of the explanations of the warm place which *Gamle Norge* takes in the hearts of all who know her. How long she will preserve her primitive virtues whilst the tourist stream flows over her we need not inquire. The writer was strolling late

one evening on the confines of a remote Norwegian village. The northern sky was still beryl and amethyst; everything was calm and still. The sound of music reaches the ear, the tooting of a cornet. It comes nearer and assumes definite form. Ta-ra-ra—(alas! alas!)—Ta-ra-ra-boom-de-ay—the latest abomination from the London music-halls.

It is time to draw these holiday notes to a close. The writer must not linger to detail the incidents of his return journey. A halcyon passage of twenty-five hours from Christiania to Copenhagen, including a near view of "the platform before the Castle of Elsinore," where one can almost fancy that the ghost of Hamlet's father still walks; a couple of days in the charming Danish capital, with its fine harbour, bright, bustling streets and its imperishable relics of the great sculptor of the North—Thorvaldsen; a rapid journey thence to Amsterdam, a couple of mornings in the Rijks Museum, sacred to Rembrandt, Franz Hals, Jan Steen, Van der Helst, Maes and Gerard Dou; a brief halt at the Hague, a few hours' tossing in the North Sea, and then Harwich, the flat plains of Essex, and, last of all, Liverpool-street and the roar of mighty London.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Small-pox.

THE epidemic of small-pox in this city has considerably diminished, owing to the vigilance and care of the medical officer of health. At present there are but twenty-four cases in the infectious hospital and fresh cases come in at the rate of about four a week. The decrease is a sign that the measures of isolation and stamping out are attended with success. But, whilst these precautions are taken in the city, a singular act of foolhardiness and danger from the Stourbridge district is reported. Amongst the numbers of women who go as hop-pickers into the hop-growing districts there are three sisters who are known to have been the subjects of small-pox within the present month. These women are mingling with the crowds of their fellow-workers and at present have not been traced. A surer means of spreading infection could hardly be devised and it is to be hoped that the offenders will be speedily tracked and brought to justice.

The Care of Stray Children.

The city coroner, Mr. O. Pemberton, F.R.C.S., called attention at an inquest on Aug. 29th to the number of children selling matches in the streets and to the want of some control over these waifs and strays. A boy of this class aged twelve has met his death by being run over by a cab. The timely remarks of the coroner may do good in warning the authorities, but the difficulty of dealing with these *gamins* is great. Perhaps in no town are they so numerous or is the noise made by them more obnoxious than in this midland metropolis. In this age of "nerves" the nuisance is a prominent and particularly disagreeable one, apart from the danger to the limbs and the future character of the children themselves.

The Suicide Epidemic.

The disastrous effects of imitation and despondency are shown in the great number of suicides which have occurred lately in our midst. Many varieties of suicide have lately been illustrated here—from cyanide of potassium, drowning, throat-cutting &c. One unfortunate attempt at suicide was that of a nurse from a local hospital who threw herself in front of a train at Rugby, both her legs being cut off. At present she survives this fearful mutilation.

Sept. 5th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Death Certification.

THE necessity for a change in our present system of death certification was shown at an inquest recently held by the county coroner on the body of an infant. Whilst being held in its mother's arms the child was struck on the head by a drunken woman who intended to strike the mother. She took it to a surgeon, who saw little or nothing the matter with it and gave her directions what to do. Later on he was told that the child had died in convulsions and he gave a certificate; after the body had been buried the police communicated what they had heard to the coroner who ordered an exhumation and post-mortem examination of the body. This was done by Mr. Sprakeling, surgeon to the Bootle Police; but as some days had elapsed and the weather was unusually warm little could be gained by the necropsy. The surgeon who gave the certificate admitted his error in doing so. The death following a violent act on the part of another person brought it within the third section of the Coroners' Act, which requires the coroner to inquire into any violent death. Even if the death were not strictly violent, it was an unnatural one, bringing it within the coroner's jurisdiction. It is very desirable that medical practitioners should avoid bringing themselves into collision with the coroner by giving certificates in any doubtful case. All such cases should be referred to the coroner.

The Health of the City and Port.

Although the weather continues to be extremely sultry the health of the city is reported to be good. Every possible precaution is being taken by the local authorities to prevent the importation of cholera into the city and to deal promptly with any cases which may arise in the river from distant ports. Any suspicious cases are promptly visited by the port sanitary medical officers, and there is ample hospital provision for any patients suffering from cholera. There are no cases of small-pox and very few of any other infectious disease.

Sept. 6th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Deaths under Chloroform.

SINCE my last letter two deaths have been noted as having occurred in the Newcastle district under chloroform. The first occurred at the Royal Infirmary during an operation for a small bony growth of the septum of the nose; the second case was in the Consett district and occurred during an operation for the removal of a growth from the face. Inquests have been held in both cases.

London and Counties Medical Protection Society.

It is announced that the northern division of the London and Counties Medical Protection Society is progressing satisfactorily in the North, and a branch is being formed in Newcastle which will consist of the four northern counties of England and the Border Scotch counties. The presidency has been accepted by Dr. T. Oliver and the secretaryship by Dr. F. W. Clarke.

The Keswick Poisoning Cases.

An inquest has been held on the bodies of three children aged six, four, and two years. The father, a sawyer, said that they all became suddenly ill and convulsed and died without being able to give him any information as to the cause of their illness. It was shown that on the 11th inst. the children had partaken of some herrings which had been thrown out (as useless) on land at the back of the house, to which there was no ashpit. The medical evidence made it very clear that they had all died from fish poisoning. The coroner remarked that it was a most extraordinary thing that the Keswick Local Board should quietly allow rubbish to accumulate at such a place and that it was most likely to give rise to an epidemic.

The Health of Sunderland last Year.

The annual report of the health and sanitary condition of Sunderland has been issued by Mr. J. C. Wood, the medical officer of health for the borough. He bases his calculations on a population of some 133,000, and the mortality returns show that the number of deaths was considerably less than in the previous year—viz., 2774, against 3273 in 1891—which is the more remarkable from the fact that a large number of deaths occurred in the early part of the year from measles and whooping-cough. The death-rate last year was 20·8 per 1000. Mr. Wood and the population under his charge are to be congratulated upon the improved sanitary condition of the borough.

Charitable Bequests by a Cumberland Gentleman.

The will has been proved of the late Mr. Joseph Nelson of

Moor-row, and it includes the following bequests: to the Cumberland Infirmary, Carlisle, £1000; to the Cumberland and Westmoreland Convalescent Institution, £500; and to the Home for Incurables, Carlisle, £500. He also directs that the residue and remainder of the trust funds shall be applied by his trustee to such charitable purposes as his trustee may select. The net value of the personal estate is over £45,000.

Health of Chester-le-Street.

Dr. Duncan, the medical officer, reports with regard to the sanitary condition of Chester-le-Street that the high death-rate, 35·5 per 1000, was chiefly due to the prevalence of summer diarrhœa and that the complaint was attributable in a great measure to polluted subsoil caused by the open channels being laid upon soil instead of upon cement.

Apoplexy through Lead Poisoning.

An inquest was held last week on a female lead worker who died rather suddenly in the Newcastle workhouse from apoplexy. Dr. R. F. Craggs, the house surgeon, said that the deceased was single and aged forty-eight. She was admitted last month for general debility and pains from chronic lead-poisoning and she died from rupture of a bloodvessel in the brain. The verdict was entered in accordance with Dr. Craggs's evidence.

Death of Mr. W. C. Allen.

We have recently lost one of the best known and most highly respected surgeons in the county of Durham—namely, Mr. W. C. Allen, of Willington, who died at the age of sixty. He had practised in Willington for thirty-six years. Mr. Allen was a native of South Shields, where he was interred on Friday last.

Newcastle-on-Tyne, Aug. 30th.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

Royal University of Ireland.

IN October of next year there will be offered for competition amongst the graduates in medicine of this University one medical studentship, tenable for two consecutive years, of the yearly value of £200. Candidates must give notice of their intention to present themselves and pay a fee of £3 at least one month previously to the examination. The subjects of the examination will be pathology and bacteriology.

Queen's College, Galway.

The annual report of the President for the session 1892–93 shows that forty-one students were enrolled in the Faculty of Medicine. The position and prospects of the medical school are satisfactory, and certain difficulties in providing clinical instruction with which it has hitherto had to contend are now for the first time removed. At the close of the last session of Parliament an Act was passed replacing the old Galway Infirmary by a public general hospital, open to patients from the country as well as from the town of Galway. The selection of the medical staff was vested in the Local Government Board, and the five professors of the Medical Faculty of the College were appointed. The Act also provided that the hospital shall be available as a clinical school for the medical students attending the College. This arrangement not alone promotes collegiate interests, but confers on the community at large the services of five physicians and surgeons. The wards of the union and fever hospitals are also made available for the instruction of students, and the certificates of these institutions are received by the licensing bodies.

Sewage Purification.

At Dundrum Criminal Lunatic Asylum last week a number of the citizens attended to inspect the works erected there by the Oxygen Sewage Purification Company. Mr. Adeney, curator of the Royal University, who is the patentee of the system, and Mr. Kaye Parry, who is joined with him, both read elaborate papers on the method adopted by the company. Those present afterwards adjourned to the works and spent considerable time in examining them. The works, including tanks, are all contained within one small building of neat construction, measuring 25 ft. long by 20 ft. wide, and even this building contains considerable amount of spare room; in addition, a small store occupies a space 15 ft. long by 8 ft. wide. The total area employed for the whole of the operations scarcely exceeds the very small space of about 70 or 80 square yards. There are three tanks, all of which are contained in the first-mentioned building. These tanks differ entirely from, and are about three times as deep as, ordinary sewage tanks. They have a small horizontal sectional area, and each tank contains 5000 gallons. The sewage as it arrives at the works enters at the bottom of the first tank, and before passing out at the top of the same tank it deposits therein nearly the whole of the solid matter which is contained in suspension simply by the process of mechanical subsidence. The sewage thus clarified next enters the second tank, again at the bottom, and in this tank purification is effected by chemical precipitation, the chemicals used being manganate of soda and sulphate of alumina. These operations remove very nearly the whole of the suspended matter and about 50 per cent. of the organic matter in solution which the sewage originally contained, and the effluent water passes away from the top of the second tank in a colourless, clear and bright condition. This effluent water is, however, subjected to still further purification by a process of oxidation effected by the addition of nitrate of soda during its passage through the third tank—again entering at the bottom and flowing from the top of the tank—this operation being equivalent to that of filtration. Sewage is thus subjected to the following processes—viz., mechanical subsidence, chemical precipitation and oxidation. After having passed through these three operations the effluent is discharged directly into a very small stream of water, less than one-half the volume of the effluent itself, which flows immediately through a gentleman's private grounds, and the stream shows no indication of contamination.

Reformatory and Industrial Schools: Annual Report.

The thirty-first report of the Inspector of Reformatory and Industrial Schools in Ireland has now been issued. There were 7 reformatories and 69 industrial schools in active operation at the end of 1892. The decrease in committals to reformatory schools, which has been so remarkable for several years past, still continues. The inspector points out that short terms in a reformatory school hardly ever do any good. They cripple the means of the managers for placing the young criminal at a distance from temptation and in a way to earn a respectable livelihood. The success in life achieved by those who have been brought up in reformatories will be found almost without exception to have been obtained by persons originally committed to them for a long period of time. There were 10 deaths in 1892 as against 2 in the previous year. Five of these were due to lung disease, 3 from mesenteric and bowel disease, 1 was a case of fever and 1 an accidental death. As regards industrial schools, there were on Dec. 31st, 1892, 8576 children as compared with 8547 the previous year. At Artane a disinfecting chamber of the most approved construction has been erected, and it is expected that it will be the means of preserving that school from various contagious and infectious diseases which continually threaten to appear in industrial schools wherever such institutions exist. Ophthalmia prevailed in Baltimore School early in May, and the attention of the authorities was called by the inspector to the extreme gravity of the disease and the necessity of taking precautions to prevent it from spreading. It also prevailed in the autumn, and in consequence some structural and other improvements will be carried out as soon as possible, the chief difficulty being the cost of the proposed additions. The average cost per head in the industrial schools was £25 1*s.* 8½*d.* or £3 6*s.* 7½*d.* per head more than the previous year, and of reformatory schools £17 19*s.* 3*d.*, or an increase of 2*s.* About 10,000 children were detained in industrial schools during the year, and the deaths amounted to 81, most of them being caused by lung disease.

Dr. Joseph O'Carroll has been elected physician to the Children's Hospital, Temple-street, to succeed the late Dr. McVeagh.

Dr. Montgomery Ward has been elected medical superintendent of health for Rathmines township.

Sept. 5th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

The Commercial Depression and the Medical Profession.

THE chief topic of conversation in the colonies just now is the universal commercial depression, from the effects of which the medical profession is by no means exempt. Con-

sultants complain that they have very little to do, and general practitioners say that, whilst they have plenty of patients, they, like the others, can obtain very few fees. Whether as a consequence of this state of affairs, or merely as a coincidence, an increased activity is noticeable at the various medical societies. The attendances have been larger and the sittings longer—the papers and exhibits which have been brought forward being in greater number and of a higher character. Amongst the retrenchment proposals of the Victorian Government was the abolition of the office of city coroner for Melbourne. Numerous protests against the proposal were made, however, with the satisfactory result that Dr. Richard Toul, who has been the able and respected occupant of the position for over thirty years, has received notice that his valued services will be retained for the present.

Victorian Representative at the Congress at Rome.

Mr. Aubrey Bowen, who had been appointed to represent Victoria at the International Medical Congress at Rome, has resigned the position, as the state of his health will prevent his attendance. Dr. Felix Meyer, one of the surgeons to the Women's Hospital, Melbourne, has been appointed in his place.

New Ward at Glebe Hospital.

A ward for diphtheria has been added to the Children's Hospital at Glebe, Sydney, but not without intense opposition by the residents, who believe that its erection will entail risk of infection to themselves. They seem to be unaware of the fact that the risk would be less from cases in a well-appointed hospital than from cases retained in their midst amongst the unsatisfactory surroundings of the homes of the poor.

Insanity in New South Wales.

From the report of the Inspector-General of the Insane in New South Wales, which has been recently issued, it appears that insanity is increasing in the colony. The number of lunatics registered on Dec. 31st, 1892, was 3312, being an increase of 178 on the previous year; and the admissions have been 666, being the largest number yet admitted in any one year. The natives of the colonies, whilst they represent very considerably more than two-thirds of the general population, contribute very much less than half of the insane.

Epidemics of Measles and Scarlet Fever.

An extensive epidemic of measles has broken out in Victoria, necessitating the closing of most of the schools. It spread from the seaport towns to the country and some think that it was imported by the s.s. *Himalaya*. The last epidemic was in 1887-88, so that a large percentage of the young population is susceptible. Scarlet fever is also very prevalent in Sydney and its suburbs.

Water-supply of Melbourne.

Some time ago Dr. Gresswell, the medical inspector to the Board of Health of Victoria, reported that the water-supply of the metropolis was liable to contamination in its passage through the reticulation, owing to the fact that when the pressure in the mains fell filth could enter through the fire-plugs. Although this report was simply a corroboration of the statements which were made in 1889 by the Sanitary Commission and by M. de Bavay, who alleged that he had discovered the Eberth-Gaffky bacillus in the water-supply, the Board of Works did not give the matter the serious consideration it deserved. Dr. Gresswell accordingly caused investigations to be made and demonstrated that the water which was first drawn after it had been shut off and the pressure had been lowered in the mains which supplied a particular block of buildings was extremely foul; and he further stated that he had discovered that the inhabitants of this block were soon afterwards attacked by a peculiar form of diarrhœa, which he attributed to their drinking the foul water. The Board of Works replied by a report, in which it denied the accuracy of some of Dr. Gresswell's statements and opposed his conclusions; but at the same time, somewhat inconsistently, recommended that all the fire-plugs should be fitted with patent screw-down caps to prevent the pollution.

Sewerage of Melbourne.

Mr. Thwaites, the engineer-in-chief of the Board of Works, recently gave an address to the Australian Health Society on the Sewerage of the Metropolis, in which he described the work which had already been carried out, and explained the alterations which had been made in the scheme devised by Mr. Mansergh for an estimated population of 1,700,000. The scheme which is being carried out provides for a population which many still think to be excessive, in view of the serious check the colony—and especially the metropolis—has received. Mr. Thwaites stated that already £1,300,000 had been saved on the estimated cost, partly by the alterations which had been made in the scheme, and partly owing to the low rates ruling for labour and material.

Rickets in Australia.

Until Mr. Philip Muskett of Sydney recently drew public attention to the existence of rickets in Australia it was generally believed that the disease did not occur in the colonies. At the last meeting of the New South Wales Branch of the British Medical Association a discussion on the subject took place, from which it appears that mild forms of the disease are fairly common, but that acute rickets and bony deformities are rare. In the course of a very able paper on Artificial Feeding of Infants, which was read at the last meeting of the Medical Society of Victoria, Dr. A. Jeffreys Wood referred to several cases of rickets which he had seen, and he concluded that "rachitis in its early stages is a very common complaint amongst colonial bottle-fed children, but bow-legs and curved forearms are not nearly so common as we find them in England and Scotland. The reason of this seems to be that, as a rule, the lower classes in the colonies have a much more plentifully supplied table than the same classes in the old country and that as soon as the children become old enough 'to have whatever is going' they are quickly cured of the results of injudicious bottle-feeding."

Experiments on Artificial Feeding of Infants.

In the same paper Dr. Wood demonstrated that water is just as efficient as barley water, lime water or gelatine in arresting the massive clotting of cow's milk. He has found that the percentage of fat in milk varies at different stages of milking. The free milk contains little fat, about 2 2 per cent., and the strippings much, about 9 per cent. Accordingly, he recommends strippings, as when they are sufficiently diluted with water, so as to render the proteids digestible, the fat is reduced only to the percentage of human milk. Condensed milk is very apt to be deficient in fat, many brands, indeed, being manufactured from skim milk.

Case of Extensive Injury to the Brain in the Rolandic Area, associated with Loss of Muscular Sense.

In the July number of the *Australian Medical Journal* Dr. G. L. Laycock records a very remarkable case of injury to the brain, which was caused by a branch of a tree falling on a man's head from a height of 100 feet and crushing in the skull just behind the right parieto-frontal suture. The depressed and loose fragments of bone, with much lacerated brain substance, were removed and the wound was closed. Consciousness returned on the sixth day, and the hemiplegia of the left side, which was present from the first, gradually recovered, but left a complete loss of muscular sense and loss of tactile localisation. He has now a depression on the side of his head 9 cm. by 7 cm., and 3 7 cm. deep. Dr. Laycock tried to obtain some localising indications from electrical stimulation, and with a galvanic current of from five to ten milliampères he found, with the anode over the face centre, that a sensation was felt in the neck on the opposite side; and when on the arm centre there was a sensation in the shoulder and upper arm. With the kathode the sensation was stronger and extended down to the fingers. No movements were obtained. From a minute analysis of the symptoms Dr. Laycock concludes that the parts of the Rolandic area which were destroyed—which are usually regarded as being motor—are really sensori-motor and that the muscular sense has a special tract of its own, being probably in the anterior half of the anterior limb of the internal capsule.

A Case of Laryngeal Growth of Disputed Nature.

Dr. Cox of Melbourne reports a case of growth in the larynx, which was removed, in successive sittings, by the endo-laryngeal method, and which he regarded as being a tubercular granuloma or a papilloma in association with tubercle. Subsequently to the operations the patient had recovered his voice. It appeared that the case had previously been under the care of another practitioner, who had come to the opinion that the growth was malignant. A portion of it had been coughed up in 1891 and had been examined by a pathologist, who reported that, microscopically, it was an epithelioma, and the practitioner then in attendance advised that either a major operation should be performed or

that it should be left alone. The patient has tuberculous disease of the left lung. It will be interesting to hear the ultimate result of this case, which, in some of its aspects, recalls the unfortunate experiences of the late Emperor "Frederick the Noble."

Neural Surgery.

At the last meeting of the Medical Society of Victoria Dr. W. Gardner showed a patient upon whom he had performed his operation of excision of portions of the posterior divisions of the upper cervical nerves for retro-collic spasm. The spasm appeared to be completely cured, but it was remarkable to what a slight extent movement was impaired. At the Alfred Hospital Mr. O'Hara recently removed the Gasserian ganglion for inveterate trigeminal neuralgia. The patient has lost all pain and is doing well.

RUSSIA.

(FROM OUR OWN CORRESPONDENT.)

Gastro-intestinal Catarrh in St. Petersburg.

Gastro-intestinal complaints are always prevalent in St. Petersburg during the summer months and this year has proved to be no exception to the rule. The number of deaths from this class of disease usually begins to rise in the month of June and does not decline until the end of August or the beginning of September. In the four weeks of June the deaths from gastro-intestinal catarrh in the capital were respectively 61, 71, 82 and 124; in the four weeks of July they were 132, 160, 186 and 134. The main incidence of this high mortality is amongst children under five years of age and more especially amongst infants less than six months old. Thus, of the figures just quoted for July, 73, 84, 102 and 73 deaths respectively were of infants under the age mentioned.

Russian Superstitions.

The note which appeared in THE LANCET of Aug. 19th upon "spotted typhus" and Russian superstition describes a ceremony that has long been held by the Russian peasant to be efficacious in keeping away infectious diseases from his village. Some further details may be of general interest, more particularly as a number of instances were brought to light in connexion with last year's cholera epidemic. The superstition is found not only amongst the Russian peasantry, but also amongst the Tchuvashi (a mixed Finnish and Tartar race to be found mostly upon the banks of the Volga and who embraced Christianity only in the last century), and amongst the inhabitants of Siberia. The ceremony appears to be of Pagan origin, but to have borrowed some elements from the Christian religion. Thus in many cases *ikons* and crosses are carried in the procession and at each stopping place a mark of a cross is made in the ground with the plough. In all cases the time chosen for the ceremony is midnight; the main actors are young unmarried women, but sometimes married women, particularly if newly married, widows and even widowers are allowed to take part in the procession. A preliminary visit to the public baths by the whole village population sometimes precedes the performance. The men then return home, collect and load all the firearms in their possession and await the return of the procession. Twelve young women, each wearing a single garment and with dishevelled hair, are meanwhile harnessed to a plough and proceed to make with it a furrow round the whole village. They are followed by the other women and children, all making as loud a noise as possible in order to frighten away the spirit of the disease, whilst some chant prayers or other religious music with the same object. Various curious articles are carried in the procession, such as fire-irons, the skull of an animal, the horns of an ox, and, as has been already stated, *ikons* or religious pictures. Sometimes a rotten tree-trunk is set on fire and carried as a torch. In some cases ashes and sand are carried and sprinkled wherever a road or path crosses the furrow made by the plough, whilst a doggerel couplet is sung, which may be translated roughly:

> "If sand and ashes rise and sprout,
> The cholera will come, no doubt."

Another formula of exorcism is addressed to the spirit of cholera in the following words: "Away from us, thou Misfortune! a hundred *sajenes* above, a hundred *sajenes* below, and a hundred *sajenes* on either side of our village." When the circuit of the village is completed the ceremony is sometimes allowed to finish, but frequently a further series of rites is solemnly gone through, at any rate amongst the Tchuvashi. The boys of the village pass from house to house, pelting each one with stones and other things, in order to drive out evil spirits. The personified disease (cholera is generally conceived in the form of a woman) is evidently supposed to have the power of reading, and on every door-post may be seen the ludicrous inscription, scrawled in tar, "not at home, come again yesterday." After each house has been well pelted with stones, the owner of the house comes out and presents the boys with all the hen's eggs he has been able to collect. The whole population then proceed to the outskirts of the village, and the eggs are there boiled and eated, to the accompaniment of certain heathenish invocations written for the occasion by the old men of the village. A high-lying piece of ground is then selected, and two mounds of earth are raised on it. Every man, woman and child then passes singly between the mounds, shouting furiously all the time, whilst certain men, armed with pieces of bone, wave these over their heads and clash them together so as still further to increase the din. When this part of the ceremony is over, and all the fire-arms have been fired off, the peasants return to their homes fully convinced that they have done all that is possible to keep away any self-respecting disease. So, at least, the elder generation firmly believes. The younger members of the community are said in many villages to be sceptical as to the value of these midnight rites; but such firmly rooted beliefs die hard, and it will probably be many generations before they disappear altogether from the mind of the Russian peasant.

St. Petersburg, August, 13th.

Obituary.

W. M. GRAILY HEWITT, M.D., F.R.C.P. LOND., F.R.S. EDIN.

WILLIAM MORSE GRAILY HEWITT, the eldest son of Mr. William Hewitt, was born at Badbury, Wilts, on Aug. 3rd, 1828. His early education was received in the College School of Gloucester, and in 1845 he came to London as a resident pupil of Mr. H. Burford Norman; in 1846 he matriculated in the University of London, taking honours in chemistry; and in October of that year he entered the medical classes of University College. He distinguished himself very highly in his College and University, taking special honours in chemistry and in anatomy in both, together with high certificates of honour in other branches. He was Gold Medalist and Exhibitioner in Chemistry at the University in 1848, and in 1850 he was awarded, at the degree of M.B., honours in all four branches, and he was the only candidate who received a certificate of honour in Midwifery. The examiner at that period was the late Dr. Rigby, and it is interesting, at this early point of Dr. Hewitt's career, to note his association with that distinguished obstetrician. In 1855 he graduated M.D. in the University of London and in the following year he became a Member of the Royal College of Physicians. Both in college and hospital Dr. Hewitt was one of the most steady, precise, punctual and devoted of students, pursuing with energy his course of study until he had entirely mastered his subject and, having done that, he never forgot it, and in after years when any discussion amongst his friends might arise, in which information about some point of anatomy, physiology, botany or chemistry—which others had lost sight of—might be wanted, Dr. Hewitt would quickly, but quietly, give it just as clearly and accurately as if he had obtained it yesterday. His fellow students held him in very high esteem for his minuteness of knowledge, especially in anatomy, chemistry and medicine, and his teachers fully endorsed the estimate of his colleagues. He was "clinical clerk" and "physician's assistant" to the late Dr. Walshe, who very keenly appreciated the extent of his knowledge, his energy in devotion to its increase and his exhibition of marked faculties for original research.

In 1850 Dr. Hewitt studied in Paris, attending chiefly the clinique of M. Trousseau at the Hôpital des Enfans Maladies. A commission in the army was offered him by the London

University, and accordingly he passed an examination at the Army Medical Board; but he proceeded no further in this matter, probably on account of the condition of his health, and in 1852 he settled in London in Radnor-place, Gloucester-square, marrying in the following year the only daughter of Mr. W. Hollis, J.P. of Northampton. During the five or six years that immediately followed his commencing practice in Radnor-place Dr. Hewitt studied pathology and clinical medicine very closely in University College Hospital, in St. Mary's Hospital, and in the Marylebone (Parish) Infirmary and Nursery. He was soon attached to the Medical School of St. Mary's Hospital, where he was one of the registrars during three years and he was Lecturer on Comparative Anatomy and Zoology until 1860. After this he held appointments in connexion with St. Mary's Hospital Medical School, in the obstetric department, to which he subsequently devoted the greater portion of his life, and in which he became one of the most distinguished teachers of his time. In the interval, however, he was busily at work, and always with diligence, originality and success. An epidemic of whooping-cough, in the years 1854–55 gave him the opportunity of studying its symptoms and pathology in the St. Marylebone Infirmary; and in May, 1855, he read a paper before the Harveian Society on this subject, which was published separately, and is an excellent specimen of his powers of research and clearness of insight. He does full justice to the work of Alderson, Jörg, Legendre, Bailly, Gairdner and others, but he arrives at conclusions for himself, distinctly separating the "collapse of lung" or "apneumatosis," from all the other conditions with which it had been confounded; and pointing out clearly the mechanism of its production and the relation between its presence and that of emphysema of the lung.

In 1858 Dr. Hewitt published a paper on Vesicular Emphysema of the Lungs in Early Childhood,[1] which, as a sequel to that just mentioned, exhibits still further his powers of research, analysis of the opinions of others, entire freedom from bias, and his carefully and courteously expressed critical faculty. He wrote, moreover, a valuable paper on Infantile Jaundice,[2] two Lectures on Vaccination,[3] Practical Illustration of some of the Diseases of Infancy and Childhood[4] and many other papers on kindred subjects of both interest and importance. At University College in 1867 he delivered, as an introductory lecture, a valuable contribution to therapeutics, entitled "Nutrition as the Basis of Treatment in Disease." In this he showed the true powers of a general physician. Only last year (1892) Dr. Hewitt published a curiously interesting paper on Sea-sickness, giving the details of "experiments in the production of an imitation of sea-sickness by complex visual disturbances."[5] There can be no doubt that very much "sea-sickness" can be produced by visual impressions as well as corporeal sensations in a swing, and Dr. Hewitt deserves our thanks for his ingenious observations; but he never for a moment thought that these experiments covered the whole ground. He knew, as well as the writer of this notice, who conversed with him much on the matter, that people could be "sea-sick" before leaving the shore, in a dead calm, or even when they were ten miles from the pier, by the mere fact of apprehension. The feeling of *mal de mer* may be very marked "in a swing," but it is much modified by knowing you can get out of it at a moment's notice.

In or about 1857 Dr. Hewitt's attentive interest and work were gradually absorbed in obstetrics and gynæcology, and in 1858 he was mainly influential in conjunction with the late Dr. Tyler Smith in founding the Obstetrical Society, of which he was the first secretary, continuing to perform the duties of that office during six years, when he was elected Vice-President and in 1869 President. In 1858 he was appointed physician to the Samaritan Hospital for Women and Children; and in 1859, he was appointed physician to the British Lying-in Hospital, assistant physician-accoucheur to St. Mary's Hospital, and one of the Lecturers on Midwifery and Diseases of Women and Children at St. Mary's Hospital Medical School. In 1861 Dr. Hewitt removed from Radnor-place to Berkeley-square, having been for some time closely associated in work with the late Dr. Rigby, to whom allusion has already been made, and the lease of whose house he purchased.

[1] Liverpool Medico-Chirurgical Journal, 1858.
[2] THE LANCET, 1856.
[3] THE LANCET, 1863.
[4] THE LANCET.
[5] Brit. Med. Jour., May, 1892.

In 1866 Dr. Hewitt was elected a Fellow of the Royal College of Physicians of London, and in succeeding years he became a Fellow or Associate of the Obstetric and Gynæcological Societies of Berlin, Boston, Philadelphia, Helsingfors, a Fellow of the Royal Medical and Chirurgical Society, a Member of the Pathological and Harveian Societies, and a Fellow of the Royal Society of Edinburgh. In the year 1865 he was elected Professor of Midwifery in University College and physician-accoucheur to the hospital and Director of the Obstetric Department. These offices he held until 1886. He contributed numerous papers to the Transactions of the Obstetrical Society, THE LANCET and other journals. Dr. Hewitt's health was much interrupted from the days of his youth. He suffered from two attacks of hæmaturia whilst at College and he was at the time attended by the late Dr. Walshe. He was asthmatic at this time and gradually, after attacks of bronchitis became emphysematous, encountering all the many troubles of those combined affections. In the winters of 1890–91 and again in 1891–92, he was gravely ill with bronchitis and renal congestion, so that last year he resolved to spend the winter in Egypt, which he did with much satisfaction and great diminution of his chest troubles; but a few weeks ago he became depressed and uræmic erythema set in, and this was followed by other symptoms. On Friday evening, the 25th ult., he was chatting with his family and friends. After that he scarcely spoke at all, but gradually passed into profound coma, from which he never rallied; and without a single sign of distress or pain his last breath was gently breathed on Sunday morning, the 27th ult., in such peace that the beautiful lines of his well-known friend, John William Inchbold, seemed to be written as if for him—

> "Is it deep sleep, or is it rather death?
> Rest, anyhow, it is, and sweet is rest:
> No more the doubtful blessing of the breath,
> Our God hath said that silence is the best."

Dr. Hewitt was a man of very extraordinary powers, with orderly method and punctuality of attendance to duties, from his earliest student days and throughout his whole life, with industry absolutely untiring and very considerable faculty for original research. He believed, as he wrote, with Darwin, that "no one could be a good observer unless he was an active theoriser." He knew the value of "working hypotheses," but he never allowed them to be lifted into the area or on to the plane of science, strictly so denoted; he could make and use a "supposition" (hypothesis), and as such use it well, but he always knew its value; and in his constant appeal to facts he either established its truth or rejected it as useless. He entered into the very midst of much controversy amongst many who held and expressed opinions quite diverse from his own; but his tone was always courteous and he gave his opponents, both in their presence and as gracefully outside it, all credit for the value and sincerity of their convictions. He was a true-hearted man and a loving friend, with a noble nature and a power of quiet endurance such as few are blessed with; and heavily weighted as he was by various ailments, which he bore with a most heroic calmness, he never complained, but continued to perform an amount of work far exceeding that of most ordinary healthy men and devoted himself to every detail of each patient's case with a self-effacement, kindness and carefulness of consideration such as could be rarely equalled and never could be surpassed.

Dr. Hewitt wrote the articles on "Changes in the Shape and Position of the Uterus" and on "Disorders of the Uterine Functions" in Reynolds' "System of Medicine," vol. v., 1879.

A pupil and friend of Dr. Hewitt writes: "Throughout the world Dr. Hewitt has been recognised as the able exponent of the mechanical system of uterine pathology. Much of his work in the domain of obstetrics and gynæcology has been devoted to the elaboration and defence of the system. Shortly before his death it appears that he had commenced, but not completed, an answer to sundry criticisms which have been recently urged in opposition to his views. His chief work on 'The Pathology, Diagnosis and Treatment of Diseases of Women' appeared in 1863. In the third (1872) edition of this work he first enunciated his views on the subject of uterine deformities and displacements, and, to quote his own words, 'demonstrated certain general principles as to the pathology of diseases of the uterus, more especially to show that the changes in the shape and position of the uterus are directly or indirectly responsible for the sufferings and discomforts attendant on the affections peculiar to the female sex.' The Harveian Lectures

delivered in 1878 were devoted to the further exposition of his views 'on the mechanical system of uterine pathology'; and in the last edition of his work on the diseases of women, which appeared in 1882, he amplified the subject and enunciated the important general conclusion 'that alterations in the shape and position of the uterus are rarely witnessed except in individuals whose general strength has become seriously impaired by a systematic and often a lengthened practice of taking little food.' The vomiting of pregnancy early engaged his attention and forms the subject of a monograph published in vol. xiii. of the 'Transactions of the Obstetrical Society.' This was followed by others on the severe or so-called incontrollable vomiting of pregnancy. In 1890 he published a complete work on 'Severe Vomiting during Pregnancy,' which last year appeared in the Italian language. Dr. Hewitt's views on the subject of local causation may be gathered from what he himself lays down as the probable sequence of events in the majority of such cases prior to pregnancy: '1. Weakness (from inadequate nutrition) of the uterine tissues. 2. Occurrence of undue degrees of flexion. 3. Metritis and subsequent rigidity of the cervix, and after pregnancy has set in. 4. Increase of degree of flexion and displacement. 5. Increase of swelling and tension of the tissues of the cervix. 6. Gradually increasing vomiting. 7. Impaction or incarceration.' It would scarcely be possible to give a complete survey of the contributions made by Dr. Hewitt to obstetric literature, or even to enumerate all of them. Amongst the more important may be mentioned articles on Sterility, on the Relation between the Changes in Tissues and Changes in Shape of Uterus, on Abnormal Softness of the Nulliparous Uterus as a Factor in the Etiology of Uterine Distortions, on Patency of the Uterine Canal as affected by Flexion of the Uterus, on Supporting the Perineum, on Puerperal Fever, on Coagula formed in the Veins during the Puerperal State, on Hydatidiform or Vesicular Mole, and Practical Illustrations of some of the Diseases of Infancy and Childhood."

Medical News.

A NEW HOSPITAL FOR WOMEN AT NOTTINGHAM.—In the place of the old hospital at Castle-gate, Nottingham, a new edifice will be opened some time next month. The ceremony will be presided over by Lady Belper, and the funds appear to be in a fair way of realisation.

ESSEX AND COLCHESTER HOSPITAL.—A scheme for the erection of a children's ward in connexion with the above charity was laid before the board of governors last week. Some discussion took place on the question of the suitability of the plans submitted as well as on the cost of the undertaking. Ultimately it was decided to refer back the reference to the committee with an instruction to obtain the opinion of an expert in hospital construction.

THE LONDON HOSPITAL.—At the quarterly meeting of the governors of this hospital, held on Wednesday last, the treasurer, Mr. J. H. Buxton, who presided, entered into an elaborate statement concerning certain charges which had appeared in the general press against the administration of the charity. The chairman dealt seriatim with these charges. With regard to the food of the nurses, he said these functionaries were themselves perfectly satisfied, the diet being, they averred, good, palatable and subject to constant change. As to being overworked, the nurses were allowed, besides their dinner hour, at least two hours for recreation daily, and not more than three patients were allotted to each nurse. With regard to the alleged waste, this charge was refuted by the fact that the average cost of a patient was lower than in other institutions of the same class. As to the diet of the inmates, the responsibility lay with the medical staff, whose duty it was to control it both in quality and kind. Two documents were read by the chairman, one from the nurses and probationers, and the other from 241 past workers who now hold various posts for which they were trained at the London Hospital. Both these documents gave an emphatic denial to the allegations. At the conclusion of the chairman's statement Sir Andrew Clark said he considered the documents afforded an unanswerable reply to the charges which had been made.

ST. PAUL'S EYE AND EAR HOSPITAL, LIVERPOOL.—The Lord Mayor of Liverpool formally opened an annexe to this institution on Tuesday last. It will provide for an addition of twenty-five beds. The total cost has been £1000.

THE DWELLINGS OF THE POOR.—On Tuesday last the monthly meeting of the Mansion House Council on the Dwellings of the Poor was held, when Mr. John Hamer, the hon. secretary, recounted the work which had been done during the previous two months.

ST. JOHN'S CRYPT.—Instructed by the Home Secretary, Dr. Hoffman has paid a visit to the crypt of St. John's, Clerkenwell, with a view of ascertaining the desirability of having the coffins and their contents removed. The visit was occasioned by the complaint of bad odours which had been experienced by the vicar and the attendants at the church. Dr. Hoffman's report has not yet been presented to Mr. Asquith.

ROYAL SOCIETIES' CLUB.—The applications for membership in the Royal Societies' Club now exceed 800, including sixty-five from members of the Royal Society (London and Edinburgh) and several from the Athenæum. The keenest appreciation is shown in the objects of the club, that of bringing together members of the Royal and learned societies under the usual conditions of club life, and thus affording opportunities for social *réunion*. Premises in St. James's-street have been acquired for the club-house.

FEVER AND SMALL-POX IN LONDON.—By the returns presented at an interim meeting of the managers of the Metropolitan Asylums district on Sept. 2nd it would appear that during the preceding fortnight 801 patients had been admitted, 70 had died and 711 had been discharged as recovered. In all, 3168 patients remained under treatment, this number consisting of 2783 cases of scarlet fever, 275 cases of diphtheria, 100 cases of enteric fever and 10 cases of other kinds of fever. On the whole the latest return compares somewhat favourably with that of the preceding fortnight. The cases of infectious diseases notified under the Act were 2730, as against 2818 in the preceding return.

ASYLUM ACCOMMODATION IN LANCASHIRE.—At a meeting of the Lancashire Asylum Board, held at Preston on Aug. 30th, a discussion arose upon a resolution passed by the guardians of the Prescot Union urging the necessity of making immediate provision for the reception of pauper lunatics under the order for admission to the county asylums. The chairman of the meeting desired to point out to the superintendent of the asylums the duty of discharging chronic and imbecile patients who might with propriety be relegated to the workhouses. An example was given by the action taken by the Lancashire Asylum, by which 130 vacancies had been arranged in that asylum. Subsequently a resolution was brought forward, founded upon a communication received from Carlisle, to the effect that the grant of 4s. at present given to boards of guardians to pay for lunatic paupers in county asylums &c., be also given for pauper lunatics in workhouse wards. This resolution was practically adopted after prolonged discussion.

ST. THOMAS'S HOSPITAL MEDICAL AND SURGICAL COLLEGE.—The following gentlemen have been selected as house officers from Tuesday, Sept. 5th, 1893:—Resident House Physicians: T. W. Hicks, L.R.C.P., M.R.C.S. (extension); G. W. Thompson, B.A., M.B., B.C. Cantab, L.R.C.P., M.R.C.S. Non-Resident House Physicians: P. Northcote, L.R.C.P., M.R.C.S. (extension); G. W. H. Bird, B.A., M.B., B.C. Cantab., L.R.C.P., M.R.C.S. House Surgeons: C. S. Wallace, F.R.C.S., L.R.C.P.; E. Smith, L.R.C.P., M.R.C.S.; W. Redpath, L.R.C.P., M.R.C.S.; C. Planck, M.A. Cantab., L.R.C.P., M.R.C.S. Assistant House Surgeons: E. M. Hainworth, B.Sc. Lond., L.R.C.P., M.R.C.S.; A. R. O. Milton, L.R.C.P., M.R.C.S. Obstetric House Physicians: Senior—J. H. Fisher, F.R.C.S., L.R.C.P.; Junior—R. F. Chance, L.R.C.P., M.R.C.S. Clinical Assistants in the Special Departments for Diseases of the Throat, Skin and Ear: C. S. Jaffé, L.R.C.P., M.R.C.S. (extension); W. P. Purvis, B.Sc., M.B. Lond., L.R.C.P., M.R.C.S.; Frederick Pershouse, L.R.C.P., M.R.C.S. (extension); W. J. C. Merry, M.A., M.B., B.Ch. Oxon.; A. H. Woodcock, L.R.C.P., M.R.C.S. (extension); H. M. Moore, L.R.C.P., M.R.C.S.

PROPOSED INFECTIOUS DISEASES HOSPITAL AT KINGSTON.—At a meeting of the Kingston-on-Thames Town Council last week, a resolution was carried with unanimity to strenuously resist the proposal to establish an infectious diseases hospital on the banks of the Thames between the river and Richmond-road, Kingston. The action of the Richmond officials and the Dysart trustees was strongly disapproved by the members of the Council, and the opinion was expressed that Kingston should provide a hospital for its own use.

THE OPIUM COMMISSION.—A preliminary meeting of the Royal Commission on the Opium Trade was held on Thursday last to determine the future course of procedure. It is understood that to-day (Friday) Lord Brassey will preside in one of the committee-rooms of the House of Lords to hear evidence, and this work will be continued on Saturday and on Tuesday next, after which day the sittings will be held from day to day until the whole of the evidence from witnesses in this country shall have been received. Sir Charles E. Bernard of the India Office is acting as Secretary *pro tem.* to the Commission.

JEWISH BAKERIES.—On the 4th inst. a deputation from the International Bakeries Union waited upon the Chief Rabbi (Dr. Adler) to bring under his notice the evils attending upon the sweating system practised in many of the Jewish bakeries. It appears that in many of these establishments it is not unusual for the men employed in them to have to work from sixteen to twenty-four hours a day. The bakeries were described as in a deplorable condition with regard to both filth and want of ventilation The Chief Rabbi said he would take an early opportunity of visiting some of the worst places complained of, and he hoped to be able by representations made in the proper quarter to obtain some amelioration in the condition of both the employés and their workshops.

POPLAR HOSPITAL.—On Monday last a new wing of this hospital was opened by Lord and Lady Knutsford. The addition to the resources of this useful institution was necessitated by the long-felt want of further accommodation for the numerous applicants for relief in the populous neighbourhood in which the hospital is situated. By this wing 160 beds will be placed at the disposal of the governors, and their liability would have been increased by the expenditure of the sum of £22,000 had not the liberality of the friends of the institution reduced that amount to £2000. Mr. A. F. Hills presided at the opening ceremony and congratulatory addresses were made by the senior hon. surgeon, Mr. Corner, and by other gentlemen interested in the progress and work of the hospital.

Parliamentary Intelligence.

THE HOUSE OF LORDS.

THURSDAY, AUG. 31ST.

The London Improvements Bill.

THE consideration of the Commons' amendments to the Lords' amendments in this Bill was commenced by a motion by Lord Hobhouse to the effect that their lordships should not insist on their amendment to strike out of the Bill the "betterment" clause, which had been reinstated by the Commons. After some discussion, in which Lord Onslow, the Marquis of Salisbury, the Earl of Kimberley and other Peers joined, the motion was defeated by a majority of 23.

FRIDAY, SEPT. 1ST.

The Contagious Diseases (Animals) (Swine Fever) Bill.

This Bill was read a third time.

THE HOUSE OF COMMONS.

THURSDAY, AUG. 31ST.

Vaccination.

Mr. Hopwood asked the Secretary of State for the Home Department whether he would inquire into the case of F. W. Smith, of Clarence-road, Hunslet, Leeds, under sentence of fourteen days' imprisonment for neglecting to vaccinate his child: whether two police officers about midnight of Aug. 17th knocked loudly at and broke in the outer door to arrest Smith; and whether he would take steps to prevent such a course being pursued in the future.—Mr. Herbert Gladstone, who replied, said that the Home Secretary had made further inquiries into this case and had received a report from the chief constable, from which it appeared that Smith had evaded payment, having stated that he did not intend to pay, and a warrant was issued for his arrest. As the officer could not see him during the day he proceeded to his house at night. He did not in the first instance break open the door. He knocked, and Smith replied that he would surrender when ready, but instead of that he escaped by a back door. The officer afterwards burst open the door and found that Smith was gone. The chief constable further said that if he had been consulted beforehand he would not have authorised the attempt to arrest the man at night The proceedings did not appear to have been illegal.

The War Office and Medical Reports.

Mr. Alpheus Morton asked the Secretary of State for War whether the officer at the War Office who supervises the quarterly medical reports, and to whom the whole sanitary responsibility of the army is left, is only a junior officer, holding the rank of surgeon-major; whether he will arrange to have the principal medical officer's inspections made twice a year in India, as in this country; and whether he will make a more stringent order requiring the commanding officers to go round with the principal medical officer on his half-yearly inspections.—Mr. Campbell-Bannerman said that the officer in question was not a junior officer, but one who had had nearly twenty years' service. The sanitary responsibility of the army did not rest solely with him, or even with the Director-General, the interests of the army in this respect being secured by the Army Sanitary Committee, of which the officer in question was a member. The second question was one entirely for the Indian Government to answer. It was not proposed to alter the regulation at present existing as to the officer who was to accompany the medical officer on his half-yearly visit. This duty was imposed upon such officer, not below the rank of captain, as the officer commanding might appoint; and he was also accompanied by an officer of the Engineers.—Mr. Morton asked whether the right hon. gentleman was aware that the medical officer was often accompanied by an officer of lower rank than captain.—Mr. Campbell-Bannerman said that this would be strictly against the regulations.

Importation of Rags.

Mr. Macdona asked the President of the Local Government Board whether the Senate of Hamburg has issued an order to prevent the importation into Hamburg, and has prohibited transit over territory under its control, of rags and bedding imported from Russia, actuated by the experience of what the people of Hamburg suffered in 1892; and whether he will consider the advisability of adopting a similar course in this country.—Mr. Henry Fowler said the only information he had as to the order referred to was contained in a telegram from Berlin to the effect that the Hamburg Senate had issued orders with reference to old clothes and dirty body and bed linen from Russia, passengers' luggage excepted. The order of the Local Government Board dealt in a similar manner with articles of a like character. The existing order prohibited the landing in England of dirty bedding or disused or filthy clothing, whether belonging to emigrants or otherwise, except under specified conditions.—In reply to further questions on the same subject Mr. Fowler said that the Local Government Board prohibited the importation into this country of all dirty and filthy rags or disused clothing or bedding. There were descriptions of rags called "merchandise" and these rags were not prohibited in any European country.

Bethlem and St. Luke's Hospitals.

Replying to a question put by Mr. A. C. Morton as to the government, finances &c. of the above hospitals, Mr. H. Fowler gave particulars on these points in respect of the two institutions. The right hon. gentleman said the hospitals formed part of the general provision for the insane of the United Kingdom as public institutions and for patients not of the pauper class. The Commissioners of Lunacy had stated that the managers of both charities deserved praise for their work in connexion with them.

Laundries and the Factory Act.

Mr. H. Gladstone, in answer to Mr. Beith, said he had received a resolution from the Trades Council of Inverness in favour of placing laundries in which women were employed under the Factories Act, and the inspectors had received instructions to make special inquiries into the question.

FRIDAY, SEPT. 1ST.

Importation of Infected Rags.

Mr. H. Fowler, replying to a question put by Mr. Macdona, who wished to know if the President of the Local Government Board was aware that there were now lying on the wharves at London Bridge over 300 tons of rags from infected districts, said no trace of the rags spoken of could be found, but if the hon. member would give him private information the Board would order a full investigation. As to the suggestion that it would be advisable that the order of Aug. 6th be rescinded, he must be guided by the advice of the competent medical advisers of the Board.

Glanders in Scotland.

Sir H. Maxwell asked if any information had been received of repeated outbreaks of glanders in Wigtownshire and whether the local authority had repudiated any responsibility in the matter.—Mr. Gardner was sorry to have to confirm the accuracy of the report respecting the outbreak. It had been stated that the epidemic had been introduced into the county named from Ballantrae, Ayrshire, but this was disputed; anyhow, it was important that both local authorities should take active measures to restrict and if possible to stamp out the disease.

MONDAY, SEPT. 4TH.

Infectious Diseases in London.

Sir Walter Foster, replying to questions put by Mr. E. B. Hoare and Mr. Weir on this subject, said he had been informed that it had been found to be impossible to establish a system of registration of applications for admission to the Metropolitan Asylums district hospitals such as had been suggested. The average number of actual admissions per week during the last fourteen weeks had been 390. The actual admissions during June, July and August were respectively 1633, 1736 and 1083. It was not possible to receive all applications, but a selection was made from amongst those cases which appeared to be the most urgent. With regard to the average interval between the actual requisition for removal and the admission of patients, his (Sir Walter Foster's) information was not precise, but the interval was, in the majority of cases, of brief duration.

Cholera in England.

Mr. Heneage asked the President of the Local Government Board if he could give any definite information with regard to the existence of cholera in the Humber ports. Sir Walter Foster said he regretted that his reply would be found to be of an unsatisfactory character. Within the last few days several deaths had occurred in the Grimsby district and in the port of Hull, which were found on post-mortem examination to be due to Asiatic cholera. A serious element in the visitation lay in the fact that for some weeks past there had been prevailing in the district a fatal form of diarrhœa. The Government had every reason to believe that all available precautions had been taken by the local authorities to prevent the spread of the disease.

TUESDAY, SEPT. 5TH.

The Drainage of Windsor Barracks.

Sir W. Hart Dyke drew attention, by a question addressed to the Secretary of State for War, to the unsatisfactory condition of the drains at Windsor Cavalry Barracks.—Mr. Campbell-Bannerman said several reports had been received on that subject. The drainage system appeared to be old-fashioned and defective, and the sanitary inspector had found that the complaints of bad odours had arisen partly from the proximity of filthy latrines to the building and partly from the escape of illuminating gas. The plan of reconstruction of the drains was now being considered, and the question of the continued occupation of the barracks was being discussed. The right hon. gentleman stated that the health of the troops located in the building did not appear to have been affected.

WEDNESDAY, SEPT. 6TH.

The Factory Act and Sweating.

In Supply questions were put by Sir J. Gorst, Sir H. James and Sir F. Powell with respect to the progress which was being made in carrying out the provisions of the Factory Act and whether additional inspectors would be appointed for that purpose.—Mr. Asquith said that special rules for the purpose of minimising the number of calamities in mines were now under consideration. It was intended to deal in the autumn with the question of appointing an additional staff of inspectors. Provisions against the danger to life and health arising from noxious trades—such as the white lead industry—and the injurious results of sweating would not be overlooked.

THURSDAY, SEPT. 7TH.

Vaccination Prosecutions.

Mr. Logan asked the President of the Local Government Board if he was aware that, despite the unanimous recommendation of the Royal Commission on Vaccination, the vaccination officer of the Uppingham Union is again instituting proceedings against persons who have already been convicted and punished for not having their children vaccinated, and if he would direct such officers in the Uppingham and other unions to discontinue prosecuting persons who have previously suffered the penalties for the same offence in regard to the same children.—Mr. Henry Fowler replied that the Board had no information whatever as to proceedings in this case. The opinion of the Board was expressed on what was known as the Eastham Letter and they still held that opinion. The Home Secretary and himself had endeavoured during the present session to pass a Bill dealing with this subject. It was not in his power to give any directions in the line suggested in the question.—Mr. Logan asked whether the right hon. gentleman could not give directions in the line of the measure he had referred to.—Mr. Fowler replied that he did not think he could remind the guardians that a Bill had been introduced which Parliament had not seen fit to read a second time.

Suspected Case of Cholera at Westminster.

In reply to a question by Mr. Lees Knowles, Mr. Henry Fowler said it was the case that a cleaner employed in the House of Commons took ill on Tuesday and died this morning. The circumstances were very suspicious and most minute and careful investigations were being made. Until these were complete he was not in a position to say whether it was absolutely a case of Asiatic cholera, although the symptoms appeared to favour that view.

BOOKS ETC. RECEIVED.

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Die Beziehungen des Sehorgans und seiner Erkrankungen zu den übrigen Krankheiten des Körpers und seiner Organe. Von Dr. Max Knies. 1893. pp. 484.

BRAUMÜLLER, W., Wien und Leipzig.

Archiv für Dermatologie und Syphilis. XXV. Jahrg., 1893. Heft V. Baden-Baden und Seine Thermen. Von Dr. W. H. Gilbert. 1893. pp. 169.

CHURCHILL, J. & A., New Burlington-street, London.

The Diseases of the Male Organs of Generation. By W. H. A. Jacobson, M.Ch. Oxon, F.R.C.S. Illustrated. 1893. pp. 766. Price 22s.

On the Nature and Treatment of Talipes Equino-Varus or Club Foot. By Bernard E. Brodhurst, F.R.C.S. 1893. pp. 60.

The Health Resorts of the Canary Islands in their Climatological and Medical Aspects. By J. Cleasby Taylor, M.D. Edin., M.R.C.S. 1893. pp. 94. Price 3s. 6d.

A Manual of Physiology. By G. F. Yeo, M.D. Dubl., F.R.S. Third Edition. 1893. pp. 679. Price 14s.

Guy's Hospital Reports. Edited by W. H. White, M.D., and W. H. A. Jacobson, M.A., M.Ch. Vol. XLIX., being Vol. XXXIV. of the Third Series. 1893. pp. 505.

St. Thomas's Hospital Reports. New Series. Edited by Dr. T. D. Acland and Mr. B. Pitts. Vol. XXI. 1893. pp. 535.

CLOWES, WM., & SONS, Charing-cross, London, S.W.

Claudius Ash & Son's Dental Catalogue. 1893. pp. 656.

FANNIN & Co., Dublin, and BAILLIÈRE, TINDALL & COX, London.

A Handbook of Obstetric and Gynæcological Nursing, being the Fifth Edition of a "Manual for Midwives." By the late F. Churchhill, M.D. Revised and enlarged by T. M. Madden, M.D., F.R.C.S. Illustrated. 1893. pp. 216.

GRIFFIN, CHAS., & Co., Exeter-street, Strand, London, W.C.

An Elementary Text-book of Biology. By J. R. A. Davis, B.A. Camb. Part I. Vegetable Morphology and Physiology. Part II. Animal Morphology and Physiology. Second Edition. Illustrated. 1893.

The Diseases of Childhood (Medical). By H. B. Donkin, M.D. Oxon., F.R.C.P. 1893. pp. 433.

Anæsthetics and their Administration. By Fred W. Hewitt, M.D. Cantab. Illustrated. 1893. pp. 354.

HIRSCHWALD, AUGUST, Berlin.

Die Erkrankungen des Kehlkopfes. Von Dr. C. F. T. Rosenthal, Berlin. 1893. pp. 372.

KROHNE & SESEMANN, Duke-street, Manchester-square, London, W.

Physiology of Sport. By George Kolb, M.D. Second Edition. 1893. pp. 184. Price 5s.

LEWIS, H. K., Gower-street, London, W.C.

A Handbook of Local Therapeutics. Edited by Harrison Allen, M.D. 1893. pp. 505. Price 14s. net.

On Diseases of the Lungs and Pleuræ, including Consumption. By R. Douglas Powell, M.D. Lond. Fourth Edition. 1893. Illustrated. pp. 600. Price 18s.

LIPPINCOTT, J. B., COMPANY, Philadelphia.

The Pharmacopœia of the United States of America. Seventh Decennial Revision (1890). Official from January 1st, 1894. pp. 602.

SAMPSON LOW, MARSTON & Co., Fetter-lane, London, E.C.

Brown's South Africa: a Practical and Complete Guide for the Use of Tourists, Sportsmen, Invalids and Settlers. Illustrated. 1893. pp. 245. Price 2s. 6d.

STANFORD, EDWD., Cockspur-street, Charing-cross, London, S.W.

Transactions of the Sanitary Institute. Vol. XIII. Congress at Portsmouth, 1892. 1893. pp. 500.

STOTT, DAVID, Oxford-street, London, W.

The Stoechiological Cure of Consumption and Diseases of the Respiratory Organs. By John F. Churchill, M.D. Second Edition. 1893. pp. 36.

SWAN SONNENSCHEIN & Co., London.

The Amphioxus and its Development. By Dr. B. Hatschek. Translated and edited by Jas. Tuckey, M.A. Illustrated. 1893. pp. 181.

THE SCIENTIFIC PRESS, 428, Strand, London, W.C.

The Uniform System of Accounts, Audit and Tenders for Hospitals and Public Institutions. By H. C. Burdett. 1893. pp. 76. Price 6s.

THE RECORD PRESS, 376, Strand, London, W.C.

Rambles in Shakespeare's Land. By George Morley. pp. 58.

THOM, ALEX. & Co., Abbey-street, Dublin.

Royal University of Ireland; Examination Papers, 1892. A Supplement to the University Calendar for the year 1893. pp. 588.

The Value of Hypnotism: by Thomas Crisfield, Masseur &c. (34, Southwick-street, London, W., 1893); price 1s.—Weekly Abstracts of Sanitary Reports issued by the Supervising Surgeon-General M.H.S. under the National Quarantine Act of April 29th, 1878; Vol. VII.; Nos. 1 to 53 (Government Printing-office, Washington, 1893).—The Ophthalmic Review, August, 1893 (J. & A. Churchill, London).—Humanitarian: edited by Victoria W. Martin; September, 1893 (Swan Sonnenschein & Co., London); price 6d.—How to Go and What to See in Western Switzerland. For information apply at the Jura-Simplon Agency, Shaftesbury-avenue, London, W. (printed by Chapalay & Mottier, Geneva).—County of Lanark: Second Annual Report on the Health and Sanitary Condition of the County for 1892; by James M'Lintock (Robert Anderson, Glasgow).—Twenty-first Annual Report of the Local Government Board, 1891-92; Supplement containing the Report of the Medical Officer for 1891-92 (Eyre and Spottiswoode, London); price 2s. 6d.—Sterilisation of Milk at 75° C. (Pasteurisation) and its Efficiency in destroying Pathogenic Organisms: by R. G. Freeman, M.D.; reprint (Trow Directory Printing Company, New York, 1893).—International Medical Magazine, August, 1893 (J. B. Lippincott Company, Henrietta-street, Covent-garden, London).—Army Medical Department: Report for the year 1891; with Appendix; Vol. XXXIII. (Eyre and Spottiswoode, London); price 2s.—Sonderabdruck aus "Therapeutische Monatshefte": von Dr. O. Liebreich und Andern (J. Springer, Berlin).—The Medical Press: edited by F. C. Valentine, M.D.; July, 1893 (Wm. A. George, New York).—The Universal Medical Journal: edited by C. E. Sajous, M.D.; July, 1893; Vol. I., New Series (the F. A. Davis Co., Philadelphia and London).—The Western Medical and Surgical Reporter, St. Joseph, Missouri: editor, F. E. Potter, M.D.; July, 1893 (G. P. Kingabury, St. Joseph, Mo.).—Baily's Magazine of Sports and Pastimes, September, 1893 (Vinton & Co., New Bridge-street, London, E.C.); price 1s.—Magazines for September: Sunday at Home, Leisure Hour, Boy's Own Paper, Boy's Out-door Games and Recreations, Girl's Own Paper, Girl's Own Out-door Book (Religious Tract Society).—Beiträge zur Entzündungslehre; Eine Historische Studie: von Dr. J. Weiss (Franz Deuticke, Leipzig und Wien, 1893).—

Handels-Bericht: von Gehe & Co. in Dresden-Neustadt; September, 1893 (C. C. Meinhold & Söhne, Dresden).—Non-Toxic Remedies: by Dr. F. von Heyden Nachfolger (Pardon & Sons, Fleet-street, London, 1893).—Dr. Thresh's Summary of the Reports of the District Medical Officers of Health in the Administrative County of Essex for the year 1892 (J. Dutton, Chelmsford, 1893).—The Journal of the College of Science, Imperial University, Japan, Vol. VI., Part II. (the University, Tókyó, Japan, 1893).—Revue d'Orthopédie; Sept. 1st, 1893 (G. Masson, Paris, 1893).—Les Institutions Sanitaires dans la République Argentine: Docteur Padilla (Editora *Argos*, Buenos Aires, 1893).—37th Annual Report of the Board of Works for the Wandsworth District for the year ended March 25th, 1893, with the Annual Report of the Medical Officers of Health for the year 1892 (Batten & Davies, Clapham, S.W., 1893).—Berkshire Combined Sanitary Districts; Report for the year ending Dec. 31st, 1892: by W. T. G. Woodforde, M.D. Lond., Medical Officer of Health (printed at the Leadenhall Press, Leadenhall-street, London).—Local Government Board; further Report and Papers on Epidemic of Influenza, 1889-92-93; pp. 154 (Eyre & Spottiswoode, London).

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ANDERSON, W. H., M.B., M.S. Glasg., has been appointed Medical Officer for the Third Sanitary District of the Birkenhead Union.

ARMSTRONG, W. G., M.B., Ch.M. Syd., has been appointed a Public Vaccinator for Corryong, Victoria, Australia, vice Bray, resigned.

BENSON, H. P. D'A., M.B., M.S. Edin., has been appointed Medical Officer for the Skenfrith Sanitary District of the Monmouth Union, vice East, resigned.

BOWE, A., M.R.C.S., L.M., L.R.C.P. Edin., has been appointed Health Officer for the Shire of Ararat, Victoria, Australia.

BOWER, H. E., M.B., M.S. Edin., has been appointed Medical Officer for the Budworth Sanitary District of the Runcorn Union.

BOYD, ALEXANDER B., M.B., B.Ch. Oxon., M.R.C.S., L.R.C.P. Lond., has been appointed House Physician to the Radcliffe Infirmary, Oxford.

BROWN, GEO., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer of Health for the Upper Soothill Urban Sanitary District of the Dewsbury Union.

CADELL, INA, M.D. Brux., L.R.C.P. and S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer to the Church of Scotland Mission (Aberdeenshire branch) at Sialkot, India.

CAMERON, ALEXANDER, M.D., M.S. Glasg., has been reappointed Medical Officer of Health for the Caistor Rural Sanitary District.

CHOLMELEY, WILLIAM, M.R.C.S., L.R.C.P., has been appointed House Surgeon to the Wolverhampton and Staffordshire General Hospital.

CLEAVER, W. F., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health for the Philluck Urban Sanitary District.

COAD, STANLEY A., M.R.C.S., L.R.C.P. Lond., has been appointed Junior House Surgeon to the Royal South Hants Infirmary, Southampton.

COLQUHOUN, A. G., M.B., Ch.B. Melb., has been appointed a Public Vaccinator for Rupanyup, Victoria, Australia, vice Haydon, resigned.

CRAIG, W. J., M.B., Ch.B. Melb., has been appointed a Public Vaccinator for Ringwood, Victoria, Australia.

CUMING, J., Professor, M.D., has been reappointed Physician to the Belfast Royal Hospital.

CUSSEN, G. E., M.B., Ch.B. Melb., has been appointed a Public Vaccinator for Kensington, Victoria, Australia, vice Wight, resigned.

DRAKE, A. T., M.B., L.R.C.S. Irel., has been appointed Medical Officer for the Fourth Sanitary District of the Greenwich Union, vice Rogers, resigned.

FAGAN, JOHN, F.R.C.S.I., has been reappointed Surgeon to the Belfast Royal Hospital.

FAWCETT, W. HERBERT, M.D. Brux., D.P.H. Eng., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer and Public Vaccinator to the Second District of the Wimborne and Cranbourne Union, and Surgeon to the Workhouse.

FINLEY, HARRY, M.B., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to the Cumberland Infirmary, Carlisle.

FOWLER, F., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Fourth Sanitary District of the Stroud Union.

FREER, JOHN H., L.R.C.P. Lond., M.R.C.S., has been reappointed Medical Officer of Health for Rugeley.

GALLETLY, WM., M.D., L.R.C.S. Edin., has been appointed Parochial Medical Officer, Elgin, and Public Vaccinator for the Burghal District.

GOWING, B., M.R.C.S., has been reappointed Medical Officer of Health for the Penistone Urban Sanitary District.

GRANT, FRANCIS WILLIAM, M.D., C.M. Edin., B.Sc. (Public Health), has been appointed Police Surgeon for Elgin, vice Whyte.

GRIFFITH, WILLIAM, M.B., Ch.B. (Victoria Univ.), has been appointed House Surgeon to the London Temperance Hospital.

HAWKINS, A. F., F.R.C.S., L.R.C.P. Lond., M.R.C.S., has been appointed Surgeon to the Chelsea, Brompton and Belgrave Dispensary, vice Read, resigned.

HAYDON, G. E. T., L.S.A. Lond., has been appointed a Public Vaccinator for Macarthur, Victoria, Australia, vice Heard.

HEARNDEN, W. C., M.R.C.S., has been reappointed Medical Officer and Public Vaccinator for the Headley Sanitary District of the Epsom Union.

HOLMES, F. D., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Driffield Sanitary District of the Belper Union.

HOWDEN, ROBERT, M.B., M.S. Edin., has been appointed Medical Officer of Health for the Burgh of Haddington.

HUNT, A. H. W., L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Gynecologist to the Wolverhampton General Hospital.

JOHNSON, FREDERICK, M.B. Lond., F.R.C.S. Eng., has been appointed Senior House Surgeon, Deaconesses' Institution and Hospital, Tottenham, N.

JONES, H. J. RUTHERFORD, M.R.C.S., L.R.C.P., L.S.A., has been appointed Junior House Surgeon to the Hospital for Accidents, Poplar.

LESLIE, C. THORNE THORNE, M.R.C.S., L.R.C.P., has been appointed Assistant House Surgeon to the Infirmary for Children, Myrtle-street, Liverpool, vice C. Parker, resigned.

LITTLEJOHN, H. H., M.B., M.S., B.Sc. (Public Health) Edin., has been reappointed Medical Officer of Health for Sheffield.

LOVELL, H. H., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer for the Third Sanitary District of the Market Harborough Union.

MACGREGOR, R. D., M.B., Ch.M. Edin., has been appointed, *pro tem.*, a Public Vaccinator for Irrewillipe, Victoria, Australia.

MORGAN, R., L.R.C.P. Edin., L.F.P.S. Glasg., has been appointed Vaccination Officer for the Newtown and Llanidloes Union.

NODES, J. D. S., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Second Sanitary District of the East Preston Union, vice Coxwell, resigned.

PINNIGER, W. W. B., M.B. Melb., has been appointed Vaccinator to the Women's Hospital, Melbourne, Victoria, Australia, vice Whyte.

PROCTER, W. J., M.B. Lond., L.R.C.P., M.R.C.S., has been appointed Medical Officer for the Great and Little Bookham Sanitary Districts of the Epsom Union, vice Stedman.

ROGERS, BERTRAM M. H., M.D., B.Ch., M.R.C.S., has been appointed Physician to the Bristol Hospital for Sick Children and Women.

SECCOMBE, S. H., M.R.C.S., has been appointed a Public Vaccinator for Taliangatta, Victoria, Australia.

SINCLAIR, J., M.B., C.M. Glasg., has been appointed Medical Officer of Health for the Withnell Urban Sanitary District of the Chorley Union.

SINCLAIR, THOMAS, Professor, F.R.C.S. Eng., has been reappointed Assistant Surgeon to the Belfast Royal Hospital.

SMITH, T. H., L.R.C.P., L.R.C.S. Edin., has been reappointed Medical Officer of Health for the Reddish Urban Sanitary District.

STEIN, C. G., M.B., M.S. Edin., M.R.C.S., has been appointed Medical Officer of Health for the Ampthill Urban Sanitary District of the Ampthill Union.

STEINTHAL, WILFRED M., L.R.C.P., M.R.C.S., has been appointed Resident Medical Officer to the Manchester Workhouse and Assistant Medical Officer to the Casual Wards of the Manchester Overseers of the Poor.

STEVENSON, R., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer of Health for the Rothwell Urban Sanitary District of the Hunslet Union.

TAWSE, G. W. H., M.B., C.M. Aberd., has been appointed Resident House Surgeon to the Whitehaven Infirmary.

TEMPLETON, GEORGE, M.B., C.M. Edin., L.R.C.P. Lond., M.R.C.S. has been appointed Junior House Surgeon to the London Temperance Hospital.

TURNER, R. T., M.B., Ch.B. Vict., has been appointed Resident Assistant Medical Officer to the Manchester Workhouse, Crumpsall.

WADE, M. A., L.R.C.P., L.M., L.R.C.S. Irel., has been appointed Junior Surgeon to the Police Force, Liverpool.

WALLIS, J. H., L.R.C.P., L.M. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Igburgh Sanitary District of the Swaffham Union, vice Joy.

WELSFORD, G. F., M.B. Camb., M.R.C.S., has been appointed Medical Officer for the Crewys Sanitary District of the Tiverton Union.

WHITLEY, A. W., L.R.C.P., L.R.C.S. Irel., has been appointed Principal Medical Officer to the Chatham Dockyard.

WHITWELL, G. G., M.B., M.S. Edin., has been appointed Medical Officer for the Atcham Sanitary District of the Atcham Union.

WILSDEN, ALFRED, C.M., M.B. Aberd., has been appointed Junior House Surgeon to the Deaconesses' Institution and Hospital, Tottenham, N.

WILSON, H. B., M.R.C.S., has been appointed Health Officer for Mornington, North Riding, Victoria, Australia, vice Dutton, resigned.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BETHLEM HOSPITAL.—Two Resident Clinical Assistants. Applications to the Clerk, Bridewell Hospital, New Bridge-street, E.C.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's-inn-road.—Registrar, Pathologist and Anæsthetist.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's-inn-road.—Clinical Assistants. Fee 5 guineas.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria-park, E.—House Physician for six months, board and residence and allowance for washing provided.

COUNTIES' ASYLUM, Carlisle.—Junior Assistant Medical Officer. Salary £80 per annum, with board.

DENBIGHSHIRE INFIRMARY, Denbigh.—House Surgeon. Salary £85 per annum, with board, residence and washing in the house. At the end of year's engagement, if satisfactory, a gratuity of £15 is given by the committee.

LONDON FEVER HOSPITAL, Liverpool-road, N.—Assistant Resident Medical Officer.

POPLAR HOSPITAL FOR ACCIDENTS, Blackwall.—Qualified Dispenser. Salary £1 a week without board or lodging.

ROYAL ALBERT ASYLUM FOR IDIOTS AND IMBECILES OF THE NORTHERN COUNTIES, Lancaster.—Assistant Medical Officer. Salary £150 per annum, with board and apartments.

ROYAL ISLE OF WIGHT INFIRMARY AND COUNTY HOSPITAL, Ryde, I. W. House Surgeon and Secretary. Salary £60 per annum, with board, lodging and washing.

SCARBOROUGH HOSPITAL AND DISPENSARY.—House Surgeon. Salary £80 per annum, with board and lodging. Stimulants and washing not provided.

STOURBRIDGE DISPENSARY.—House Surgeon and Secretary. Salary £120 a year, with furnished rooms, coal and gas, with an extra allowance of £25 for travelling expences.

ST. MUNGO'S COLLEGE, Glasgow.—Chair of Chemistry.

THE VESTRY OF THE PARISH OF ST. LEONARD, Shoreditch.—Medical Officer of Health for the parish of St. Leonard's, Shoreditch. Salary £400 per annum, rising (subject to the Vestry's approval) by annual increments of £25 to a maximum of £500 per annum. Applications to the Solicitor and Clerk, Shoreditch Town Hall, Old-street, E.C.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL, Wolverhampton.—House Physician (who will also be required to act as Chloroformist, Pathologist and Medical Registrar). Salary £100 per annum, with board, lodging and washing.

WEST LONDON HOSPITAL, Hammersmith-road, W.—House Physician and a House Surgeon, for six months. Board and lodging are provided.

Births, Marriages and Deaths.

BIRTHS.

BAYLOR.—On Sept. 2nd, at Ash, Dover, the wife of E. A. C. Baylor, B.A. & M.D. Dub., of a daughter.

DIXEY.—On Sept. 1st, at Oxford, the wife of Frederick A. Dixey, M.D., of a son.

DUNDAS.—On Aug. 29th, at Litcham, Norfolk, the wife of Mordaunt G. Dundas, M.R.C.S., of a son.

GOODSALL.—On Aug. 30th, at St. Andrew's House, Holborn-circus, the wife of Frederick W. W. Goodsall, M.D., of a daughter.

MORRICE.—On Sept. 3rd, at St. Ann's Lodge, Salisbury, the wife of George Gavin Morrice, M.D., M.R.C.P., of a son.

WORSLEY.—On Aug. 30th, at Iver, Bucks, the wife of Reginald Carmichael Worsley, M.R.C.S., L.R.C.P. Lond., of a daughter.

MARRIAGES.

BURGHARD—POLLOCK.—On Aug. 31st, at the Parish Church, St. Marylebone, by the Rev. C. A. E. Pollock, Fellow of Corpus Christi College, Cambridge and the Rev. L. A. Pollock, Curate of Hunstanton, brothers of the bride, Frederic F. Burghard, M.D., M.S., F.R.C.S., of 46, Weymouth-street, to Mary Dora (May) Pollock, daughter of the late Alfred A. Pollock, of Hampstead. At home Fridays in October.

COLECLOUGH—BAILEY.—On Aug. 30th, at St. George's, Edgbaston, John Arthur Coleclough, M.R.C.S., of Pentrebach, Glamorganshire, to Mary Lois, only daughter of Samuel Bailey, Calthorpe-road, Edgbaston.

HARLEY—PENDERED.—On Aug. 31st, at the Parish Church, Wellingboro' Henry Harley, M.D., to Ellen Sophia, younger daughter of Thomas Pendered, Esq., Redwell, Wellingboro'. No cards.

WOOD—ROBINSON.—On Aug. 24th, at the Parish Church, Huddersfield, by the Rev. Canon Bardsley, assisted by the Rev. A. W. J. Keely, George Bennington Wood, M.B., C.M., of Milnbridge, Huddersfield, to Edith, daughter of F. W. Robinson, Esq., of Woodleigh, Huddersfield.

DEATHS.

BLACK.—On Aug. 26th, at Dowlaw, James Black, L.R.C.S. Edin., of Dunbar.

COOKE.—On Sept. 4th, at Church-street, Stoke Newington, Robert Humphrey Cooke, F.R.C.S., in his 79th year.

HALL.—On Aug. 28th, at Brynafon, Bangor, Frederick Hall, M.D. St. And., M.R.C.S., of St. Mark's House, Leeds.

HOBLEY.—On Sept. 4th, 1893, at 50, Bellevue road, Southampton, after a long and painful illness from cancer, Simon Halford Hobley, M.D., aged 48.

KIRBY.—On Sept. 3rd, at Orme-square, Hyde-park, W., Robert Kirby, M.D., F.R.C.S., aged 84.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages and Deaths

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Stewart's Instruments.)

THE LANCET Office, September 7th, 1893.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
Sept. 1	30·00	S.E.	58	57	74	66	57	·24	Overcast
,, 2	30·08	W.	63	60	112	72	58	..	Overcast
,, 3	30·18	W.	65	60	111	71	57	..	Overcast
,, 4	30·29	S.E.	60	58	106	71	56	..	Hazy
,, 5	30·04	S.E.	58	56	106	78	53	..	Hazy
,, 6	29·84	S.W.	63	59	114	82	56	..	Fine
,, 7	29·73	W.	68	63	120	80	61	·01	Cloudy

Medical Diary for the ensuing Week.

Monday, September 11.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays, at the same hour.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; and on Tuesday, Wednesday, Friday, and Saturday at the same hour.

ST. MARK'S HOSPITAL.—Operations, 2 P.M.; Tuesday, 2.30 P.M.

ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2.30 P.M.; Friday, 2 P.M.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, daily at 10 A.M.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M.; and each day at the same hour.

CHELSEA HOSPITAL FOR WOMEN.—Operations, 2 P.M.; Thursday, 2 P.M.

HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M.; and on Thursday at the same hour.

METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.

UNIVERSITY COLLEGE HOSPITAL. Ear and Throat Department, 9 A.M.; Thursday, 9 A.M. Eye Department, 2 P.M.

Tuesday, September 12.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.

CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.

WESTMINSTER HOSPITAL.—Operations, 2 P.M.

WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M. Skin Department, 1.45; Saturday, 9.15.

ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electrotherapeutics, same day, 2 P.M.

Wednesday, September 13.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.

MIDDLESEX HOSPITAL.—Operations, 1.30 P.M.; Saturdays, 2 P.M. Obstetrical Operations, Thursdays, 2 P.M.

CHARING-CROSS HOSPITAL.—Operations, 3 P.M., and on Thursday and Friday at the same hour.

ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.

LONDON HOSPITAL.—Operations, 2 P.M.; Thursday and Saturday, same hour.

ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations, 2 P.M.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.

GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M. Dental Department, 9.30 A.M. Eye Department, 2 P.M.

ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.

CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.

Thursday, September 14.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M. Ear and Throat Department, 9 A.M. Eye Department, 2 P.M.

Friday, September 15.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Eye Department, 2 P.M.

Saturday, September 16.

UNIVERSITY COLLEGE HOSPITAL.—Skin Department, 9.15 A.M.

Notes, Short Comments & Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Publisher."*

We cannot undertake to return MSS. not used.

PUBLISHER'S NOTICE.

IN order to facilitate the work of reference to the volumes of THE LANCET, we have arranged to publish duplicate copies of the Index to each half-yearly volume in a form in which they may be subsequently filed or bound together. Those of our subscribers who may wish to be supplied with loose copies can obtain the same (without extra charge) on making application to the Publisher of THE LANCET.

BEER *v.* WATER.

WE are asked to state "briefly and decisively" how much truth or untruth there is in the following propositions: 1. More people to-day are poisoned by bad water than by beer. 2. The abolition of alcoholic drinks would amazingly shorten the average lives of men. 3. There is hardly a man of science living who would not tell you that the moderate use of intoxicating drink is, in nine cases out of ten, necessary for health, and that those who use it, as a rule, live longest. We may take the propositions *seriatim*. Before doing so, however, we may state that physiological and pathological questions can only be roughly answered in "brief and decisive" ways; but, speaking roughly, we shall give such answers as are suggested by medical experience. As to Question 1, it is to be noted that only bad water is set against beer. The number of people dying from bad water is becoming less and less as the authorities amongst great communities are making it more and more a prime part of their duties to secure purity in the water-supply. We should say that there is no comparison between the number of people who are poisoned by bad water and those who are poisoned by beer, using the word "poisoned" in the sense of being injured physically and in the end fatally. Deaths from typhoid fever—which is pre-eminently the type of disease caused by bad water—are all recorded as such. Even if all of them were caused by drinking contaminated water they are small in number as compared with those caused by beer, which are not recorded as such but as deaths from rheumatism, gout, fatty degeneration, accidents and common diseases &c., which are more apt to be fatal in beer-drinkers than in those who "drink the clear stream." 2. It may be a question whether the abolition of alcoholic drinks would shorten the average lives of men in the highly artificial state of society known as civilisation, but that it would "amazingly" do so we do not believe. Teetotalers, arguing from the average duration of life of that class in life assurance companies as compared with that of moderate drinkers, which is actually longer, maintain that the average duration of life would be greatly increased by the complete abolition of intoxicating drinks. Be this as it may, there is no doubt that teetotalism is quite consistent with longevity, even if not conducive to it; but we have had no great experiment on this subject to justify dogmatic assertion one way or the other. 3. The third proposition is vague and of very doubtful accuracy. What is the moderate use of intoxicating drink? Sir William Gull aimed at making medicine scientific as much as any physician and declared that in the quantities ordinarily regarded as moderate alcohol was by no means necessarily beneficial. On the whole, the general opinion of medical men—who for this purpose are men of science—is in favour of the use, in sharply limited and extremely moderate amount, of alcohol at meal times, and decidedly against the common practice of casual drinking between meals. The question of longevity in this connexion is a very complicated one, but there can be little doubt that the number of lives curtailed by the free use of alcohol is much greater than the number of those which it lengthens.

House Surgeon.—It is compulsory on a house surgeon to make a post-mortem examination on the order of the coroner. He is not entitled to a fee.

THE LATE DR. HENRY FISHER.

To the Editors of THE LANCET.

SIRS,—Will you allow me, through the columns of THE LANCET, to make an appeal which I most earnestly trust may touch the hearts of your readers? Two years ago Dr. Henry Fisher of Oakley-street, Chelsea, died suddenly, leaving a widow and two young daughters to face utter destitution, his kindly nature having made his practice more wide than lucrative. By dint of weary toil and many enforced privations the family has struggled to keep clear of debt, but within the last fortnight a terrible affliction has been sent to them. The youngest daughter, upon whose exertions the family was chiefly dependent for their daily bread, fell a victim to fever rendered fatal by worries and anxieties, and this bright young life which had fought so bravely and cheerfully against weariness, hunger and disappointments was snatched away from the two whose sunbeam and stay she was. Efforts are being made to obtain for the mother a yearly pension from the United Kingdom Beneficent Association, commencing at £20 and increasing at the end of two years to £30; but to achieve this it is necessary to obtain some 2000 or 3000 votes, each vote costing 5s., or to sink their equivalent in the funds of the Association. Is it asking too much from those of your readers who have received a bountiful share of the comforts of this life to think with compassion upon the broken-hearted mother and sisters who have experienced infinite difficulty to procure the wherewithal to lay their darling in her last resting-place? Surely those who have enjoyed the happiness of watching their own children grow strong and well at the seaside or in the country will not begrudge a few shillings to soften in a small degree the bitter sorrow of a fellow-being to whose child this blessing of health was denied. The case is strongly recommended by the following ladies and gentlemen; those marked thus * will undertake to acknowledge all contributions:—Lady Wilde, 146, Oakley-street, S.W.; Mrs. Bright,* 6, Onslow-houses, South Kensington; Mrs. Keith Abbott,* 167, Oakley-street, S.W.; Dr. Mapother, 32, Cavendish-square; Mr. Frankish, 102, Sloane-street; Oscar Wilde, Esq., 16, Tite-street, S.W.

I am, Sirs, yours faithfully,

September, 1893. M. A.

CASE OF EARLY GESTATION.

To the Editors of THE LANCET.

SIRS,—A girl aged fifteen years and three weeks, was delivered by me of a large and well-developed male child at full term. She became pregnant at the age of fourteen years and four months. The child was above the average weight and length and the placenta was very large and heavy. Labour was very tedious, lasting for five days. The membranes ruptured on the first day. Presentation was a breech, and the utmost difficulty was experienced in delivering her by turning under chloroform, the head especially requiring great and forcible traction, combined with pressure over the abdomen, before it could escape the small orifice. The cord ceased beating before delivery of the head was effected, and the child was laid aside and wrapped up in some clothes as dead, probably for two or three minutes, whilst I looked after the patient. However, I plunged it into hot and cold water alternately, vigorously rubbed it with whisky and began artificial respiration (Schultze's method), and after thirty-five minutes I had the satisfaction of seeing the child make an effort to breathe, and ultimately the respiratory process became fully established. The father of the child was sixteen years when the sexual intimacy began, although pregnancy did not result for some months afterwards. The mother is a strong and well-made, womanly looking girl. She began to menstruate about thirteen years of age off and on. The child died four days after birth quite suddenly. It was found dead lying on her arm in the early morning. There were no signs of death from suffocation.

I am, Sirs, yours faithfully,

Glasgow, July 7th, 1893. DANIEL M'NICOL, M.B.Glasg.

THE PRODUCTION OF PRUSSIC ACID FROM SUGAR.

A "Student of King's" has observed, in connexion with an article under the above heading in THE LANCET of Aug. 26th, that when sugar is partly burnt in an ordinary gas flame it proves destructive to mice. Having baited a trap with burnt sugar one night he was surprised to find next morning a mouse in the trap quite dead, and another one also dead outside the trap, both pieces of sugar having disappeared. Two other mice were caught in precisely the same way. Of course, death could hardly be ascribed to prussic acid poisoning, as he suggests, but it may possibly be that caramel, which is the chief constituent of burnt sugar, is fatal to mice in large quantity; but apart from the above interesting testimony we can find no other information on this point.

NOTES ON A CASE OF "ENGLISH CHOLERA"; DEATH IN FORTY-FOUR HOURS.

To the Editors of THE LANCET.

SIRS,—About ten o'clock on the night of Aug. 21st I was called to see a man aged twenty-seven years, who was said to be "in a fit." I found him tossing about the bed in a semi-conscious condition. His eyes were sunken and surrounded by dark rings; his face was haggard and of an earthy hue, and his lips were livid. He was pulseless; his tongue and all his extremities were cold. I could elicit from him no intelligible replies to my questions. He wanted to sit up in bed (which he had previously been prevented from doing by two men holding him down). I allowed him to sit up, but he soon sank back exhausted. He muttered incoherent phrases, such as "Take away the meat!" and "They mustn't pull me about so!" It appeared that he went to bed in his usual health on the previous Saturday night and was seized with vomiting and purging early on Sunday morning. These symptoms yielded, however, to some ordinary diarrhœa mixture administered by his landlady. On Monday morning he started to go to his work, but he was brought back in an exhausted condition and gradually sank and died about midnight. I was told that his temperature in the morning was 101·4° F.; half an hour after death the thermometer registered 104° in the axilla. At the post-mortem examination, made seventeen hours after death, it was noticed that cadaveric rigidity was very well marked, also post mortem lividity. The muscular system was poorly developed; the thoracic organs were healthy. On the posterior wall of the stomach were patches of submucous hæmorrhage. The same condition was found, though in a less marked degree, in the upper part of the small intestine. There was no peritonitis, neither was there any perforation. I apprehend that the "fits" were really cramps. He was an unusually hearty eater, and drank freely of cold water whilst suffering from diarrhœa.

I am, Sirs, yours faithfully,

HENRY GEO. DIXON, L.R.C.P.Irel., M.R.C.S.Eng.

Hoxton, N., September, 1893.

INFANTILE DIARRHŒA.

To the Editors of THE LANCET.

SIRS,—I am glad to see that attention is being called to the advantage of antiseptic treatment in infantile diarrhœa. I have had excellent results since adopting this line of treatment; but, as Dr. McCaw suggests in your issue of Aug. 19th (p. 467), I usually find that milk has to be discontinued as an article of diet in many of the cases, as it seems to favour the development of the special organism that causes the complaint. I find ½-grain doses of quinine dissolved in two minims of dilute sulphuric acid, with ½-drop doses of tincture of opium and five-minim doses of tincture of catechu in one teaspoonful of chloroform water is an excellent combination for very young babies. Where this cannot be retained on the stomach I have substituted other antiseptics for the quinine with advantage. An egg beaten up with half a pint of hot water and sweetened and half taken alternately with prepared food (mixed with water) every three hours, with or without brandy, according to symptoms, effectually supplies the place of the milk. This treatment has in my hands been very successful, no case of failure having occurred as yet. The offensive odour quickly disappears from the motions and their colour becomes healthy. No other line of treatment has been half so satisfactory.

I am, Sirs, yours faithfully,

M. A. SALTMARSH, L.S.A.Lond.

St. Andrew's-road, W., Aug. 28th, 1893.

MEDICAL MEN AND DENTISTS.

To the Editors of THE LANCET.

SIRS,—I think that the rule as to fees between medical men and dentists is a very one-sided one—that is to say, practitioners apparently rarely charge dentists for services rendered, whilst dentists almost invariably charge practitioners. I have never taken a fee from a dentist, and yet I have always been charged by dentists, even when the latter have been personal friends. Dentists appear to charge medical men half fees—that is to say, half a guinea for stopping a tooth &c. I enclose the names of dentists whom I have consulted. You will see that all are qualified medical men. Personally, for obvious reasons, I prefer to pay a fee.

I am, Sirs, yours faithfully,

Aug. 18th, 1893. M.D., F.R.C.S.

A NINETEENTH CENTURY CANIDIA.

THE famous sorceress Canidia, immortalised in the Epodes and Satires of Horace, seems to have left descendants in the Italy of the present day, if we may trust a narrative which reaches us from Montelepre, in Sicily. The agricultural poor of that island—with the doubtful exception of those of Sardinia—are, mentally and educationally, the most backward in the Italian kingdom. Rather than call in a medical man in cases of illness they infinitely prefer the local witch, who, if patients mean fees, must have a relatively lucrative practice. No amount of failure seems to shake the popular belief in the efficacy of such practitioners, and strong indeed must that belief be which can survive such tragic misadventures as the following. A poor girl in her seventeenth year, subject to neurotic disease inducing convulsive movements of the body as well as perturbation of the mind, was at once pronounced to be possessed by an evil spirit. A witch who was called in confirmed the popular "diagnosis," announced the source from which the spirit came, took stock of its qualities and its strength, and appointed the 15th ult.—the feast of the Madonna of mid-August—as the day on which she would relieve the girl of her tormentor. True to time the Sicilian Canidia appeared on the scene, caused a sufficient quantity of water for a bath to be procured and proceeded to boil it, throwing in from time to time a handful of herbs. When the bath was pronounced to be ready the girl was put into it, whilst some of her relatives stood by and set fire to about half a pound of incense, the fumes of which they forced the girl to inhale by enveloping the bath and herself in it with a sheet. For two hours the unfortunate victim had to undergo this ordeal, in spite of her protests that she was being suffocated and ultimately of her fainting. This latter phenomenon, however, seemed to have admonished the witch that the "remedy" had lasted long enough; so the girl, still unconscious, was removed to bed, where she breathed her last on the following day. Her agonising struggles to disengage herself from the hot bath and the fumes of the incense were, it turned out, ascribed by the witch to the conflict between the "forza térapeutica" (the therapeutic agent) and the evil spirit which, like most intruders of the kind, withstood "eviction" to the bitter end. The pretor, or, as we should call him, the sheriff, of Montelepre ordered the immediate exhumation of the girl's body, and empowered Dr. Brancaleone to perform a "sectio cadaveris," with a view to prosecuting the witch and her abettors.

MEDICAL DEGREES FOR WOMEN.

To the Editors of THE LANCET.

SIRS,—At the recent meeting of the University Court of St. Andrews a resolution was passed specially appointing the lecturers of the London School of Medicine for Women "for the instruction of women in medicine." In consequence, students at this school can now prepare for the M.D. and C.M. degrees of the University of St. Andrews.

I am, Sirs, yours truly,

ISABEL THORNE,

Hon. Sec., London School of Medicine for Women.

Handel-street, W.C., Sept. 5th, 1893.

WATERING STREETS WITH SALT WATER.

To the Editors of THE LANCET.

SIRS,—Can any of your readers inform me whether the watering of streets at the seaside with salt water to lay the dust is attended by any injurious results if done when the wind is high? It is asserted by some that it is injurious, because the mixture of dust and salt when dry is blown by the wind into the eyes of pedestrians and sets up conjunctivitis. Is this objection not purely theoretical?

I am, Sirs, yours truly,

September, 1893. ALPHA.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received:—*Newcastle Chronicle, Wolverhampton Chronicle, Leicester Daily Post, Scottish Leader, Belfast News Letter, Cape Argus, Manchester Examiner, Galignani Messenger, Sheffield Independent, City Press, Birmingham Argus, Liverpool Courier, Northern Whig, Dundee Advertiser, Scotsman, Glasgow Herald, Builder, Architect, Sunday Times, Mining Journal, Local Government Chronicle, West Middlesex Standard, Weekly Free Press and Aberdeen Herald, Yorkshire Post, Liverpool Daily Post, Leeds Mercury, Bristol Mercury, Hertfordshire Mercury, Reading Mercury, Sanitary Record, The Gas World, Surrey Advertiser, Local Government Journal, West Middlesex Advertiser, Worcestershire Advertiser, Preston Herald, Lightning, Land and Water, News of the World, Lichfield Herald, Ripley Advertiser, Lynn News, North British Advertiser, North Herts Journal, Le Temps (Paris), Westminster Gazette, Citizen, Ashton Standard, Irish Times, Huddersfield Chronicle, Peterborough Advertiser, East Anglian Daily Times, Elgin Courant, Le Courrier de la Presse (Paris), Australian Medical Journal, Whitehurch Herald, Kelso Mail.*

Communications, Letters &c. have been received from—

A.—Dr. J. P. Atkinson, Surbiton; Mr. Percy T. Adams, Maidstone; Messrs. Allard and Co., London; A. M. T., London.

B.—Dr. Sidney A. Bontor, Great Berkhamsted; Prof. A. J. Rubert Boyce, London; Mr. Carl M. Bacharach, London; Mr. L. V. Bice, St. Colomb; Mr. D. R. Bowen, Morriston; Mr. F. W. Boam, Leicester; Messrs. Burgoyne, Burbidges & Co., London; Beta, London; Bachelor, London.

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